EXECUTIVE SUMMARY

MONCTON AIR SERVICES IMPROVEMENT STUDY

Prepared For

Department of Regional Industrial Expansion

March, 1986

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EXECUTIVE SUMMARY

INTRODUCTION

Moncton is the geographic hub of the three Maritime Provinces and to some extent is also a hub for regional travel. With recent and proposed changes in the federal air policy, many opportunities exist to rationalize passenger air service throughout the Atlantic Region, as well as the Moncton area. A number of applications have been received by the Canadian Transport Commission for the provision of intra and interregional air service in the Atlantic Region. In addition, the national and regional carriers are proceeding with rationalization of their services.

To ensure the Moncton area has the necessary air service to continue and improve economic growth, a meaningful resource document was believed necessary. This Executive Summary provides a condensed version of that resource document including an indication of the nature and scope of services that can be provided to meet air travel demand and service requirements at Moncton. A general indication of the needed quality and characteristics of air service is also provided, including evaluations of alternative local air service networks. These evaluations provide an indication of the general financial viability and operating requirements of a local air service airline specifically serving Moncton.

SCOPE AND OBJECTIVES

The scope and objectives associated with this project can be summarized as follows:

1). Identification of demand for air service to and from the Moncton area. This analysis concentrates primarily on passenger traffic, although it inherently includes potential opportunities and impacts of light cargo traffic as it relates to parcel express and courier package functions.

2). Preparation of a profile of the nature of existing demand in terms of a variety of factors, including origins and destinations, scheduling, frequency of service, reliability, acceptable fare levels and flight connections.

3). An analysis and evaluation of the demand data:

a). Within the context of existing air service into and out of Moncton;

b). Within the context of possible air service extensions into and out of Moncton; and

c). Within the context of an entirely new local air service system to be operated either in isolation from a and b above, or in connection with a and/or b above.

4). Evaluation of the costs and revenues of potential local air services. This analysis includes, amongst other things, a financial analysis of a nature sufficient to indicate possible subsidy implications for a new local air service. The subsidy analysis includes assessment of the magnitude and time-frame for such subsidy requirements.

LOCAL AIR SERVICE

A detailed financial and operational evaluation of various local air service network options, which could be implemented to improve local air service at Moncton and other regional communities, was completed. The analysis indicated that a fare structure approximately equal to three times the competitive level would be required for an airline to operate in a breakeven position. Expressed in terms of an operating subsidy (assuming a normal competitive fare level), the annual subsidy would range between $0.91 million and $1.2 million, depending on the air network

implemented. This probable poor financial viability for a local air service network can be attributed to lack of demand and the dynamic climate of the airline industry as a result of recent changes in the Canadian air policy. Since it is unlikely that local air carriers can provide improvements to the air services at Moncton, it is critical to encourage appropriate levels of service by the national and regional carriers.

This Executive Summary has been prepared to consolidate the primary results which were derived from the study and provides a general development strategy for provision of air service at Moncton. Improvements to the existing air services are identified and priorized in the next section.

DEVELOPMENT OF AIR SERVICE IMPROVEMENT STRATEGIES FOR MONCTON

The Moncton Air Services Improvement Study basically includes an evaluation of existing air services and demand, an evaluation of potential impacts of the new air policy, assessment of future market potential and evaluation of local air service options. Based on the above analysis, and since a local air service network is not likely to be financially viable, general air service improvement strategies have been developed and are documented below.

The primary opportunities for expansion of air traffic volumes regarding regional service for Moncton is in conjunction with service to Halifax, Charlottetown, Sydney and St. John's. There are also opportunities to integrate service on Charlo/Bathurst/Moncton and St. Leonard/Fredericton/ Moncton links.

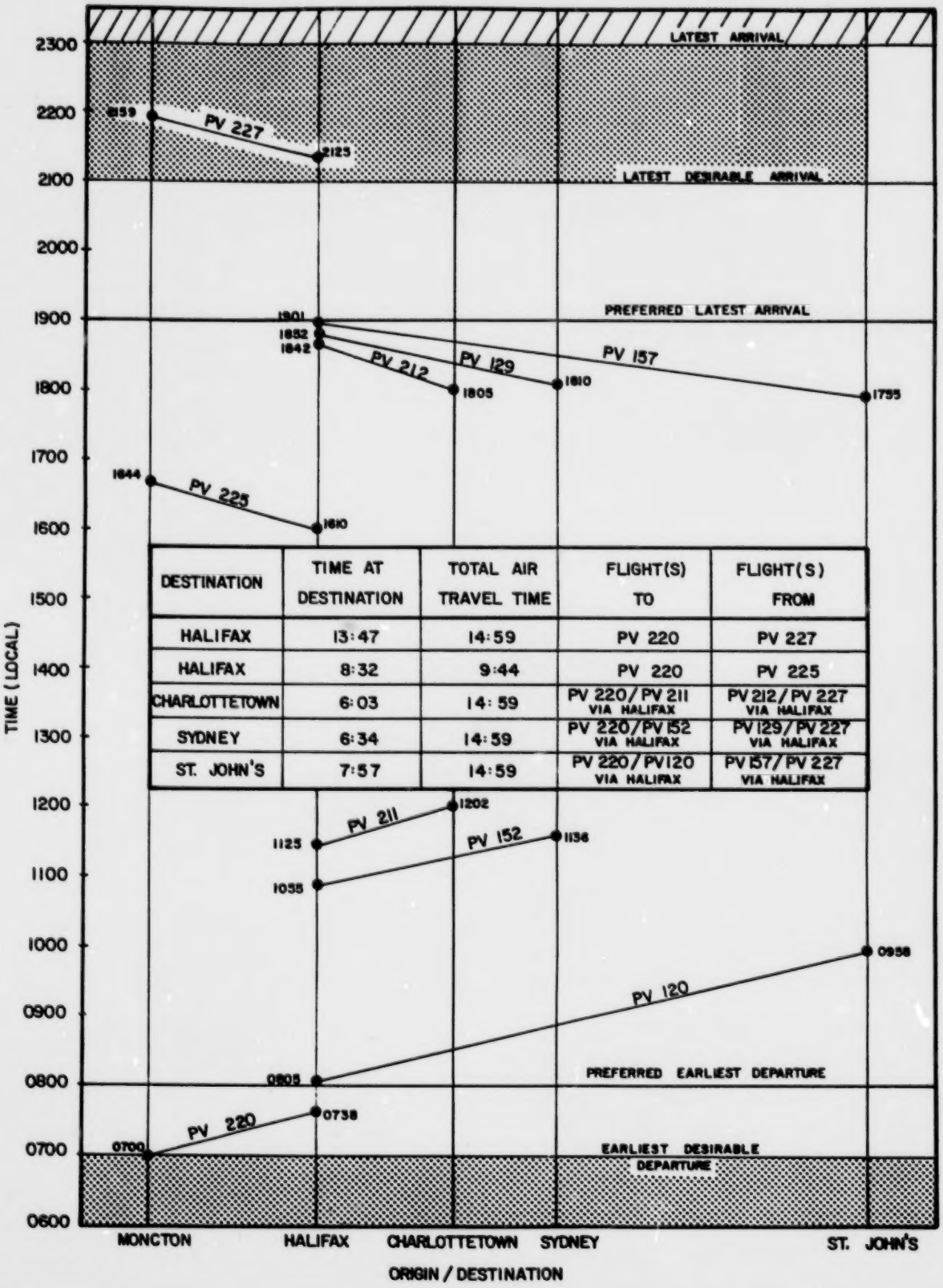
The most important characteristic of any air service is reliability. In the recent past Moncton business people have been faced with an unacceptable level of delay and flight cancellations associated with regional flights, especially to and from Halifax and Newfoundland. This

has resulted in significant travel time delays and an increase in the number of automobile trips being made to Halifax from Moncton to either conduct business in Halifax or to connect with eastbound flights. This increase in overall travel time has also resulted in greater trip costs. Improvements in the reliability of regional air service should increase demand on some regional air links.

Associated closely with reliability is same day return service criteria. This is a major area where improvements are required with respect to existing air service. Prior to identifying where the demand for same day return exists, and where existing levels of service are not meeting this demand, it is important to establish guidelines for same day return flight times. These time guidelines can be considered as criteria applicable to either regional or extraregional travel. The criteria were derived from discussions with various business people in the Moncton area who utilized air service for business purposes. These criteria should be adhered to as much as possible when planning future air service for Moncton.

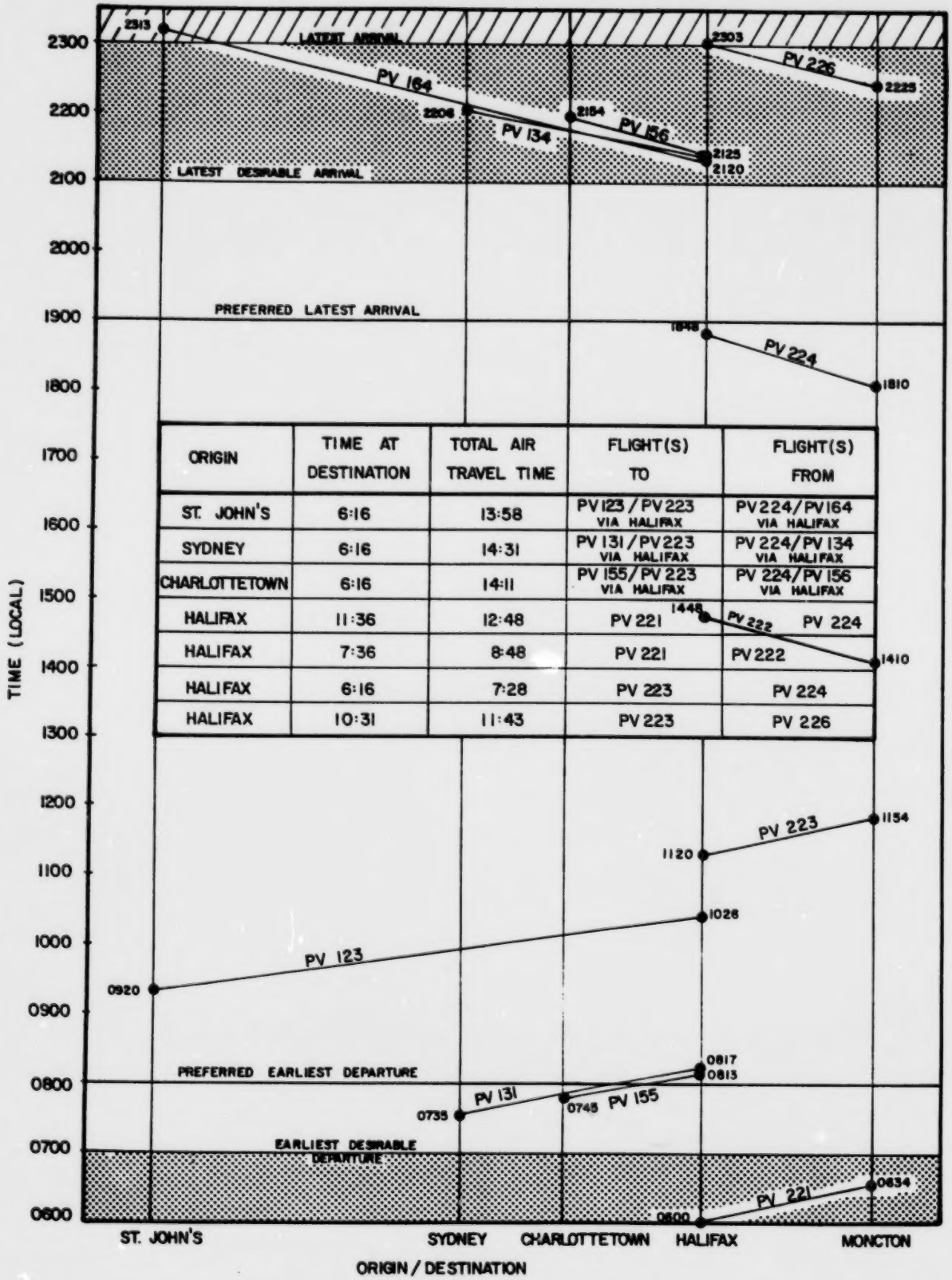
The earliest acceptable departure time from the origin is considered to be 0700 hours, while the preferred departure time is 0800 hours. It is essential that a minimum of six hours at the destination be available to conduct a day's business prior to returning that same day. A preferred trip return arrival time at Moncton from travel within the region is considered to be between 1700 and 1900 hours. The preferred return time from external cities such as Ottawa, Toronto and Montreal is 2000 hours. The latest arrival time from any same day return trip is considered to be 2300 hours. A maximum one hour connect time with other flights at an intermediate airport is believed reasonable.

The comments documented below relating to same day return service for regional travel are based on Summer 1985 schedules which were used for the analysis in this Study. Figures 1 and 2 provide a graphic illustration of existing opportunities for same day return service between Moncton and other regional centres. These figures should be reviewed in conjunction with the following discussion.



DESTINATION	TIME AT DESTINATION	TOTAL AIR TRAVEL TIME	FLIGHT(S) TO	FLIGHT(S) FROM
HALIFAX	13:47	14:59	PV 220	PV 227
HALIFAX	8:32	9:44	PV 220	PV 225
CHARLOTTETOWN	6:03	14:59	PV 220/PV 211 VIA HALIFAX	PV 212/PV 227 VIA HALIFAX
SYDNEY	6:34	14:59	PV 220/PV 152 VIA HALIFAX	PV 129/PV 227 VIA HALIFAX
ST. JOHN'S	7:57	14:59	PV 220/PV 120 VIA HALIFAX	PV 157/PV 227 VIA HALIFAX

FIGURE 1: SAME DAY RETURN OPPORTUNITIES FROM MONCTON TO (HALIFAX - CHARLOTTETOWN - SYDNEY - ST. JOHN'S)



ORIGIN	TIME AT DESTINATION	TOTAL AIR TRAVEL TIME	FLIGHT(S) TO	FLIGHT(S) FROM
ST. JOHN'S	6:16	13:58	PV 123 / PV 223 VIA HALIFAX	PV 224 / PV 164 VIA HALIFAX
SYDNEY	6:16	14:31	PV 131 / PV 223 VIA HALIFAX	PV 224 / PV 134 VIA HALIFAX
CHARLOTTETOWN	6:16	14:11	PV 155 / PV 223 VIA HALIFAX	PV 224 / PV 156 VIA HALIFAX
HALIFAX	11:36	12:48	PV 221	PV 222 PV 224
HALIFAX	7:36	8:48	PV 221	PV 222
HALIFAX	6:16	7:28	PV 223	PV 224
HALIFAX	10:31	11:43	PV 223	PV 226

FIGURE 2: SAME DAY RETURN OPPORTUNITIES FROM (ST. JOHN'S - SYDNEY - CHARLOTTETOWN - HALIFAX) TO MONCTON

Reviewing the existing air service schedules (Figure 1 and 2) for regional travel, there are a number of existing deficiencies when flight times are compared to the same day return time criteria identified above. From Moncton to Halifax return, there exists two excellent opportunities for same day return. However, in the reverse direction (Halifax to Moncton same day return) there are improvements which can be made to the existing schedule. Presently, there is a flight leaving Halifax to Moncton at 0600 hours. Changing this departure time to 0700 hours would provide excellent same day return service from Halifax to Moncton. It is realized that this may cause problems with overall aircraft utilization by the airlines. However, this potential should be explored with the airlines.

The greatest deficiencies in same day return service for regional travel exist between Moncton and the cities of Charlottetown, Sydney and St. John's. Business people have indicated that same day return to these communities is a high priority for improvements to existing air service. Consequently, these points represent significant opportunities for expansion of traffic volumes for the airlines.

Reviewing Moncton to Charlottetown first, a same day return trip currently requires a 0700 hour departure and an arrival time back home of 2159. This represents a total trip time (not including ground access time) of 15 hours, a trip time not compatible to the trip distance. During this time there is only 6 hours available to conduct business at Charlottetown. Of equal, or greater aggrevation, 6 1/2 hours are spent at the Halifax terminal waiting for flight connections. This can not be considered as adequate same day return service, and improvements should be made to reduce overall travel time and reduce connect time at the Halifax terminal.

From Moncton to Sydney, a similar situation exists. There is a total travel time from departure to arrival back home of 15 hours. During this trip time, 6 hours and 34 minutes are available to conduct business in Sydney, while 5 hours and 50 minutes are required in the Halifax terminal

for connection purposes. This poor same day return service has suppressed air travel demand between these two communities. The focus group discussions held with various business people in Moncton indicated that Sydney is a community with major potential to business travel demand and that a large number of trips are currently being made by automobile because of the poor existing flight schedules. An automobile trip requires 5 hours in each direction. Improvements to the flight schedules enabling convenient same day return would probably result in a significant increase in air passenger travel between these points. This is applicable to other regional communities as well, although perhaps to a lesser extent.

From Moncton to St. John's, total same day return travel time is 15 hours (the same as to Sydney and Charlottetown). This permits almost 8 hours at St. John's to conduct business. However, there is a 2 hour and 25 minute connect time at Halifax on the return to Moncton. A reduction to a 1 hour connect time would provide adequate same day return service from Moncton to St. John's and would reduce the overall trip time.

The above discussions relate to same day return deficiencies from Moncton to Sydney, Charlottetown, St. John's and Halifax. There is also a requirement for same day return opportunities for travel from the above communities to Moncton. Presently, there are a number of same day return opportunities from Halifax to Moncton. However, to fall within the same day return time criteria established by business people, there is the need for a change in the early morning flight from Halifax to Moncton. Presently this flight departs Halifax at 0600 hours, 2 hours earlier than the desirable morning departure time and 1 hour prior to the earliest acceptable departure time. If this flight (PV 221) were changed to 0700 hours, a number of good same day return opportunities would exist, each providing sufficient time to conduct business in Moncton.

From Sydney to Moncton, the present flight schedules do not provide a realistic same day return opportunity. A total of 14 hours and 31 minutes is required from a morning Sydney departure to a late evening return.

This opportunity provides 6 hours and 16 minutes on the ground at Moncton, but 5 hours and 40 minutes are required at the Halifax terminal for connection purposes. Both the morning departure time and the evening arrival time back home are well within acceptable same day return time criteria. However, the long connect time at Halifax does not meet acceptable criteria and it is in this area where improvements are required. A one hour connect time would reduce the overall trip length as well.

The same day return opportunity from Charlottetown to Moncton is very similar to that of Sydney. Both morning departure and evening arrival times are within acceptable limits, along with time available on the ground at the destination. However, the connect time required at Halifax is not acceptable and is the area where improvement is necessary.

The comments in the above paragraph are also applicable to same day return opportunities from St. John's to Moncton. In addition, the arrival time back home is after the 2300 hour latest arrival time (2313). An earlier evening arrival time coupled with reduced connect times would improve the same day return opportunity to within an acceptable limit.

The above discussion has centred on same day return improvements for regional travel to and from Moncton. In most cases, a reduction in the time spent in the Halifax terminal for flight connections would greatly enhance same day return requirements. Business people have clearly indicated that convenient same day return service within the region is essential and the provision of this service, along with greater reliability, would increase existing demand. The convenience of such opportunities would decrease overall travel time and reduce travel costs.

Equally important to Moncton business people are the extraregional same day return opportunities associated with Montreal, Ottawa and Toronto. Although existing air service to these areas provides a much higher level of service than that which exists for regional air travel, there are some

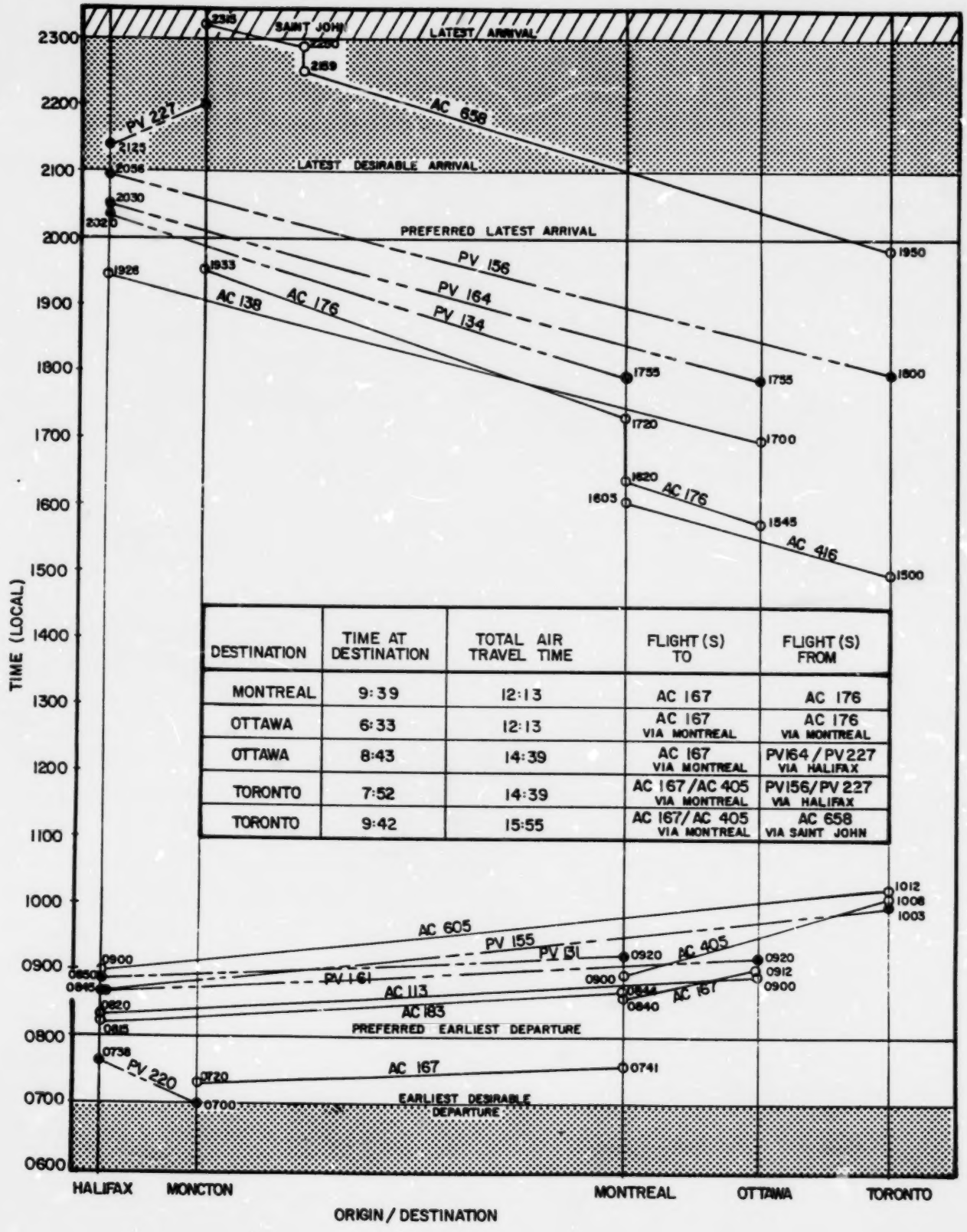
improvements which can be made to enhance same day return. Figures 3 and 4 display the existing opportunities for same day return between Moncton and the external centres stated above. The discussion below will be based on these two figures.

Presently, same day return service from Moncton to Montreal is good. There is a direct flight departing Moncton at 0720 hours. This provides a total of 9 hours and 39 minutes on the ground in Montreal, with arrival back in Moncton at 1933 hours. Adequate same day return to Ottawa is also available.

There is the requirement to improve same day return service from Moncton to Toronto. Presently the most convenient opportunity requires a 0720 hour departure time from Moncton, with a return arrival time at 2315. This represents a total return travel time of almost 16 hours (not including ground access time to/from the airport), with 9 hours and 42 minutes on the ground in Toronto. It would be desirable to reduce this time in Toronto by approximately two hours. This would then require a departure from Toronto at 1750 rather than 1950 (AC 658) and an arrival back in Moncton via Saint John at 2115. Such a schedule change would provide an adequate same day return service for air travel from Moncton to the three major external centres in eastern Canada.

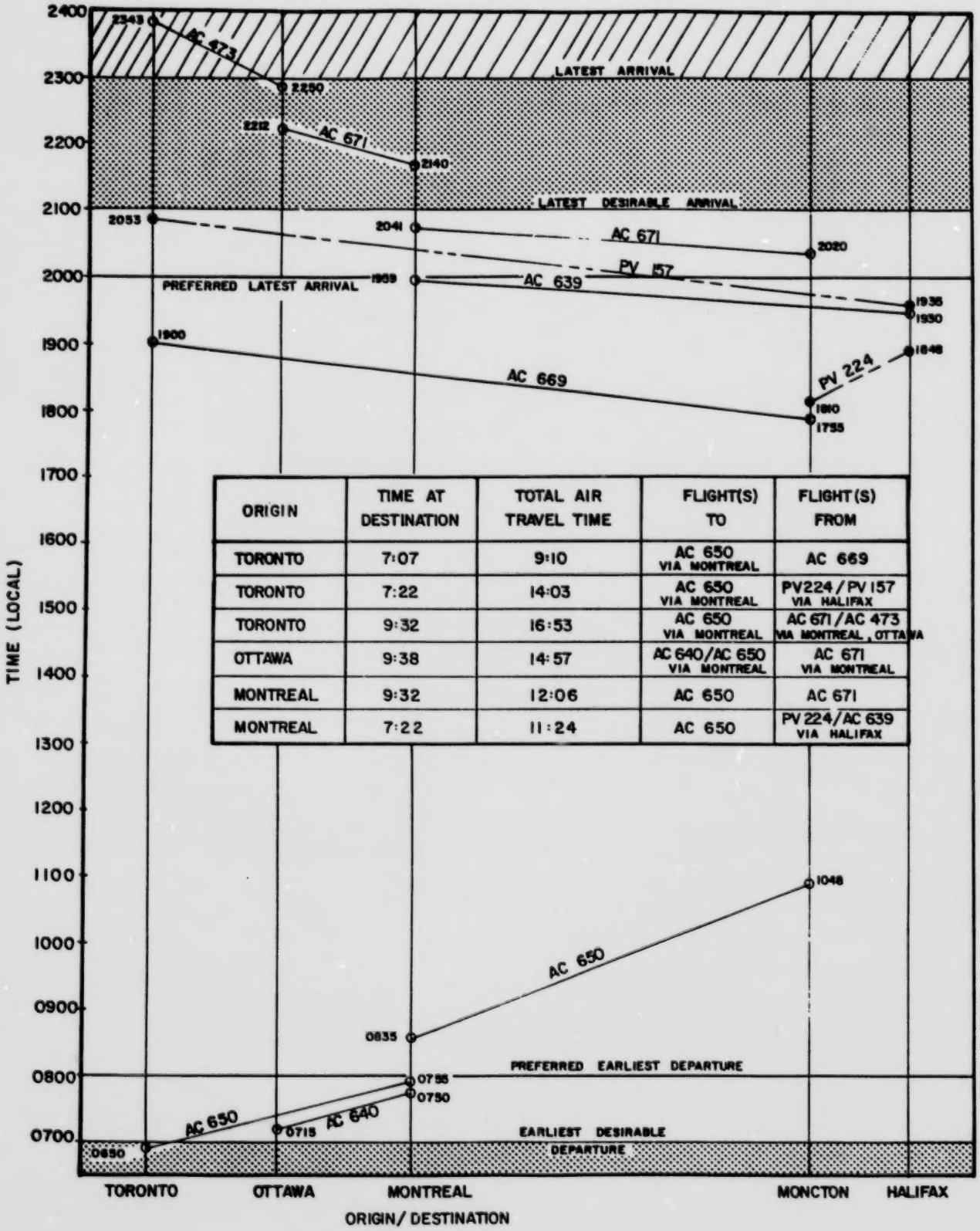
The same day return service from Toronto to Moncton is quite adequate. Except for a 0650 morning departure time (AC 680) out of Toronto, all other flight times associated with this same day return opportunity meet the time criteria established by the Moncton business people. If this morning departure flight could be changed to depart between 0700 and 0800 hours, this same day return service would be excellent.

The above discussion has centred around improving existing flights in a manner which would enable same day return for trips associated with Moncton. This is a major service requirement of business travel, especially in regards to regional travel. Although same day return is



DESTINATION	TIME AT DESTINATION	TOTAL AIR TRAVEL TIME	FLIGHT (S) TO	FLIGHT (S) FROM
MONTREAL	9:39	12:13	AC 167	AC 176
OTTAWA	6:33	12:13	AC 167 VIA MONTREAL	AC 176 VIA MONTREAL
OTTAWA	8:43	14:39	AC 167 VIA MONTREAL	PV164 / PV227 VIA HALIFAX
TORONTO	7:52	14:39	AC 167/AC 405 VIA MONTREAL	PV156/PV 227 VIA HALIFAX
TORONTO	9:42	15:55	AC 167/ AC 405 VIA MONTREAL	AC 658 VIA SAINT JOHN

FIGURE 3: SAME DAY RETURN OPPORTUNITIES FROM MONCTON TO (MONTREAL - OTTAWA - TORONTO)



ORIGIN	TIME AT DESTINATION	TOTAL AIR TRAVEL TIME	FLIGHT(S) TO	FLIGHT(S) FROM
TORONTO	7:07	9:10	AC 650 VIA MONTREAL	AC 669
TORONTO	7:22	14:03	AC 650 VIA MONTREAL	PV224 / PV 157 VIA HALIFAX
TORONTO	9:32	16:53	AC 650 VIA MONTREAL	AC 671 / AC 473 VIA MONTREAL, OTTAWA
OTTAWA	9:38	14:57	AC 640/AC 650 VIA MONTREAL	AC 671 VIA MONTREAL
MONTREAL	9:32	12:06	AC 650	AC 671
MONTREAL	7:22	11:24	AC 650	PV 224/AC 639 VIA HALIFAX

FIGURE 4: SAME DAY RETURN OPPORTUNITIES FROM (MONTREAL - OTTAWA - TORONTO) TO MONCTON

desirable to other external communities as well, many business people have suggested the minimum level of service would be one which would permit travel to the destination in the evening with return the following evening. Such an arrangement would permit a full days work at the destination with only one night away from home. This minimum requirement is important and should be considered during any major air service schedule changes.

Discussions with business people indicate that they are fully aware that regional jet service is expensive and that this type of service can most economically be provided with turbo prop aircraft. However, it is important that this type of aircraft have a cabin design which provides sufficient leg and seating room and reduces the in-cabin noise from the engines. In-flight service requirements for regional travel are not considered a necessity because of short flight times. The provision of newspaper/magazines and coffee would satisfy most in-flight service requirements.

The Hawker-Siddeley 748 aircraft which were used by Air Maritime were not considered by the business community to be a reliable or comfortable aircraft. The noise associated with the flight and the numerous flight cancellations by Air Maritime in the past did not enhance this aircraft's, or the carrier's image in the eyes of the business people. The critical factor for air service in general, and regional service in particular, is the consistent provision of reliable, on-time service. The poor performance of the previous regional air service has reduced regional air traffic levels associated with Moncton below their potential.

In addition to the above requirements there are a number of other areas where consideration should be given to improving the quality of air service to Moncton.

Business travellers desire an increase in the number of available seats during peak periods, specifically during the peak travel season as well as Mondays and Fridays during the week. Presently, there is some difficulty

in obtaining convenient reservations because of consistently high load factors on key flights in peak days of the week. The spontaneity of business travel requirements often do not permit reserving a seat on a particular flight well in advance. Therefore, there is a level of supressed demand in these peak periods.

The other area in which the level of air service is considered inadequate is access to the New England area, in particular, Boston. A more convenient connection between Boston and Moncton is required to meet this north - south demand.

Although the analysis conducted for a local air service network indicated that such a network would not be financially feasible, regional airlines should give some consideration to extension of their route structure. In addition to the previously noted demand between Moncton and the primary centres of Halifax, Charlottetown, Sydney and St. John's, there is some demand for air travel between Charlo/Bathurst and Moncton, as well as St. Leonard and Fredericton/Moncton.

In conclusion, this Executive Summary has identified areas where existing air service can be improved to accommodate the air travel demands of the Moncton area. The two most important elements of any air service is reliability and the opportunity for same day return to the above noted regional centres as well as key external communities (Montreal, Ottawa and Toronto). These regional and extraregional points represent the areas where there are opportunities for the carriers to respond to these needs.

FINAL REPORT

MONCTON AIR SERVICES IMPROVEMENT STUDY

Prepared For

Department of Regional Industrial Expansion

March, 1986

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March 25, 1986 85-0513-01/1.1

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RE: Moncton Air Services Improvement Study - Final Report

Please find enclosed our final report on the above project. We have enjoyed working on this interesting study and hope the results prove useful in assisting the Moncton area in improving air services.

Yours truly,

Allan Flander, P. Eng.
President

ADF/rc

Enclosure

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EXECUTIVE SUMMARY

INTRODUCTION

Moncton is the geographic hub of the three Maritime Provinces and to some extent is also a hub for regional travel. With recent and proposed changes in the federal air policy, many opportunities exist to rationalize passenger air service throughout the Atlantic Region, as well as the Moncton area. A number of applications have been received by the Canadian Transport Commission for the provision of intra and interregional air service in the Atlantic Region. In addition, the national and regional carriers are proceeding with rationalization of their services.

To ensure the Moncton area has the necessary air service to continue and improve economic growth, a meaningful resource document was believed necessary. This report provides this resource document which includes an indication of the nature and scope of services that can be provided to meet air travel demand and service requirements at Moncton. A general indication of the needed quality and characteristics of air service is also provided, including evaluations of alternative local air service networks. These evaluations provide an indication of the general financial viability and operating requirements of a local air service airline specifically serving Moncton.

SCOPE AND OBJECTIVES

The scope and objectives associated with this project can be summarized as follows:

1). Identification of demand for air service to and from the Moncton area. This analysis concentrates primarily on passenger traffic, although it inherently includes potential opportunities and impacts of light cargo traffic as it relates to parcel express and courier package functions.

2). Preparation of a profile of the nature of existing demand in terms of a variety of factors, including origins and destinations, scheduling, frequency of service, reliability, acceptable fare levels and flight connections.

3). An analysis and evaluation of the demand data:

a). Within the context of existing air service into and out of Moncton;

b). Within the context of possible air service extensions into and out of Moncton; and

c). Within the context of an entirely new local air service system to be operated either in isolation from a and b above, or in connection with a and/or b above.

4). Evaluation of the costs and revenues of potential local air services. This analysis includes, amongst other things, a financial analysis of a nature sufficient to indicate possible subsidy implications for a new local air service. The subsidy analysis includes assessment of the magnitude and time-frame for such subsidy requirements.

SUMMARY OF RESULTS

The Moncton Air Services Improvement Study basically includes an evaluation of existing air services and demand, an evaluation of potential impacts of the new national air policy, assessment of future market potential, evaluation of local air service options and development of air service improvement strategies for Moncton. Based on the above analysis, the following findings were identified:

1). Moncton has comparable air service with other Maritime cities, with the exception of Halifax.

2). Regional travel (eastbound) between Moncton and other major Atlantic Provinces cities is generally poor, with significant delay time experienced at the Halifax terminal waiting for connecting flights.

3). Generally, the private vehicle can compete favourably with air travel with respect to travel time involving distances up to 240 kilometres. Considering the private automobile, this is approximately a 2 1/2 to 3 hour trip. By air, including access time to and from the airport and passenger and baggage handling, a similar trip would approach 2 1/2 hours. Thus a 240 kilometre auto trip, which is a relatively common maximum distance between many major regional centres, is comparable in travel time to air and significantly less expensive. This makes it very difficult for a local air service airline to develop any substantial air passenger market on network segments with distances less than 240 kilometres.

4). Recent Transport Canada forecasts indicate that the peak 1980 passenger volumes probably will not be reached again at the Moncton Airport until the late 1980's.

5). The generation rates in terms of air passenger trips per capita are similar for the three New Brunswick airports (Moncton, Fredericton and Saint John). The per capita generation rates for cities in Ontario are generally substantially less than those for the Atlantic Region cities.

6). The proposed new Canadian air policy will have an impact on future air services in the Atlantic Region. It can be expected that Halifax will continue to emerge as a dominant hub in Atlantic Canada. Air carriers under a less economic regulated environment will be keenly interested in ensuring that both their operational and financial productivity is maximized. Thus, service offering will likely be more closely matched to demand,

with the high density routes receiving the greatest benefits. Some communities may experience significant deterioration in the level of air service provided by the major carriers.

However, initially it is believed that deregulation will result in much higher intra-regional air service levels, with Halifax serving as a primary hub for the Maritime Provinces.

7). Although there is some demand for a local air service network, passenger volumes are relatively low. Based on passenger demand, four alternative local air service networks were evaluated from a financial and operational point of view. It is estimated that a local air service implemented to accommodate passenger volume demand and primary service scheduling criteria would have to charge a fare level three times the current competitive level to break even. At a normal fare level, such as the one proposed by Air Nova, annual operating subsides for a local air service would range between $0.91 million and $1.22 million, depending on the route structure. Thus, a local air service network is not viable as an alternative to improving air service at Moncton.

8). Although implementation of a local air service network is not financially feasible because of low passenger demand, there are a number of features associated with the existing air service which can be upgraded to meet most of the Moncton area requirements. These improvements are described in detail in Chapter 8.0 - Development of Air Service Improvement Strategies for Moncton.

Basically, the areas where improvements are necessary include regional air travel reliability, regional and extraregional same day air travel return, an increase in available seats during peak periods, a more convenient connection between Moncton and Boston, possible extension of the regional network to northern communities in New Brunswick. The key opportunities for improvements in air traffic levels within the region are at Charlottetown, Halifax, Sydney and St. John's.

1.0 INTRODUCTION

1.1 Background

Moncton is the geographic hub of the three Maritime Provinces and to some extent is also a hub for regional travel. With recent and proposed changes in the federal air policy, many opportunities exist to rationalize passenger air service throughout the Atlantic Region, as well as the Moncton area. A number of applications have been received by the Canadian Transport Commission for the provision of intra and interregional air service in the Atlantic Region. In addition, the national and regional carriers are proceeding with rationalization of their services.

To ensure the Moncton area has the necessary air service to continue and improve economic growth, a meaningful resource document was believed necessary. This report attempts to provide this resource document and provides an indication of the nature and scope of services that could be provided to meet the demand which is identified. A general indication of the needed quality and characteristics of air service is also provided, including evaluations of specific options for a local air service network to meet demand. These evaluations provide an indication of the general financial viability of a local air service specifically serving Moncton.

1.2 Scope and Objectives

The scope and objectives associated with this project can be summarized as follows:

1). Identification of demand for air service to and from the Moncton area. This analysis concentrates primarily on passenger traffic, although it includes as a supplementary component the potential opportunities and impacts of light cargo traffic as it relates to the parcel express and courier package functions.

2). A profile of the nature of existing demand in terms of a variety of factors, including origins and destinations, scheduling, frequency of service, reliability, acceptable fare levels and flight connections.

3). An analysis and evaluation of the demand data:

a). Within the context of existing air service into and out of Moncton;

b). Within the context of possible air service extensions into and out of Moncton; and

c). Within the context of an entirely new local air service system to be operated either in isolation from a and b above, or in connection with a and/or b above.

4). With a potential need being identified for improvements in existing service, the costs and revenues of such services have been analysed. This analysis includes amongst other things, a financial analysis of a nature sufficient to indicate possible subsidy implications. The subsidy analysis will include assessment of the magnitude and time-frame for such subsidy requirements.

2.0 OBSERVATIONS AND FINDINGS

This chapter summarizes the relevant observations and conclusions derived from the various analyses preformed during each phase of the project. These observations and conclusions are documented below under the appropriate chapter headings.

Chapter 3.0 - Evaluation of Existing Air Services

1). The evaluation of existing air services was completed utilizing the 1985 airlines schedules for both Air Canada and EPA. These two carriers provide DC-9 jet service, Boeing 737 jet service and Hawker Siddeley HS 748 turbo prop service to and from Moncton.

2). Table 3.1 (page 3.3) provides a detailed illustration of the total flight arrivals and departures between Moncton and 22 other municipalities. The data in this table include direct, stop-overs and connecting flights. From Table 3.1 the following observations can be drawn:

a). Under the existing schedules there is no air service between Moncton and the communities of Charlo and Chatham. It is not possible to obtain service to other Atlantic Region centres, including Churchill Falls and Wabush during the same day.

b). Air services to the Magdelan Islands, St. Pierre & Michelon and Yarmouth are restricted to a maximum of one flight per day in each direction. These services are achieved with aircraft changes in Halifax.

c). There is generally a balance between the number of arrival and departure flights to each municipality on a weekly basis.

d). In descending order of the magnitude of daily flights, the major centres for which there is service to and from Moncton are

Toronto, Montreal, Halifax and Ottawa. The frequency of arrivals and departures from Toronto is normally 7 per day, Montreal has 5 arrivals and departures per day, while Halifax and Ottawa have 4 per day each way.

e). Normally the frequency of flights is less during the weekends than on the weekdays.

f). There is a total of 7 840 seats available weekly between Moncton and all other communities.

3). Table 3.2 (page 3.7) was prepared to provide a comparison of total weekly air service flights between the various major centres in the Atlantic Region and Central Canada. Reviewing Table 3.2, the following characteristics can be noted:

a). Service between Halifax and all of the external centres to the Maritimes is superior to any of the other five regional locations included in Table 3.2. Flights available between Halifax and centres external to the region is approximately twice the magnitude of those at Moncton.

b). Reviewing service to and from Montreal, Moncton has a total of 33 flights per week each way. Fredericton has 14 arrivals and 15 departures weekly while Saint John has 19 arrivals and 24 departures. In terms of available seats, this translates to 6 600, 3 030 and 4 470 respectively. Charlottetown has 19 arrivals and 19 departures while Halifax has 60 arrivals and 61 departures. Sydney has 27 arrivals and 32 departures to Montreal. With the exception of Halifax, Moncton has a greater number of arrivals and departures, as well as available seats, associated with Montreal than any of the other major Maritime centres.

c). With respect to service to Ottawa, the service at Moncton is comparable to that in the other Maritime cities, except for Charlottetown which has a poor degree of service.

d). Considering Toronto, the flights available at Moncton are generally better than the other cities (except at Halifax).

e). Service between Moncton and St John's, Nfld. is comparable to that at Saint John and Sydney, whereas it is somewhat superior to that available between St. John's and Fredericton or Charlottetown.

4). Further refinement of the existing air service schedules was completed based on a review of direct service flights (non-stop) and same aircraft flights available between the major centres noted in Table 3.2. With respect to the same aircraft flights the following general comments have been developed:

a). Half the flights between Montreal and Moncton involve same aircraft service.

b). In contrast, the service between Fredericton and Montreal is provided exclusively by the same aircraft. However, Fredericton is the most westerly regional centre and is the last stop westbound and the first stop eastbound.

c). Similarly, for service between Saint John and Montreal all but one arrival is provided by the same aircraft and two-thirds of the departures are provided by the same aircraft.

d). Only about one-quarter of the arrivals and two-thirds of the departures between Moncton and Ottawa involve service by the same aircraft. An even smaller portion of the flights between Fredericton and Saint John involve service with the same aircraft. This is also applicable to service out of Charlottetown and Sydney to Ottawa.

e). Considering Toronto, less than 50 percent of the arrivals in

Moncton involve same aircraft service, with only about one-third of the departures being provided in the same aircraft. Saint John has about the same level of service with respect to same aircraft flights.

5). The information extracted from the existing airline schedules relating to direct (non-stop) service at Moncton, as well as number of other Maritime centres, is summarized in Table 3.3 (page 3.10). The primary observations drawn from the data summarized in this table are:

a). 14 of the 33 weekly arrivals and departures between Moncton and Montreal are direct (non-stop) service. This is comparable to those available at Saint John and Fredericton. On the other hand, Charlottetown and Sydney have no direct service with Montreal.

b). Other than Halifax, Charlottetown is the only Maritime city which has direct service to Ottawa.

c). Direct (non-stop) service from Moncton, Fredericton, Saint John and Charlottetown to Toronto is comparable, each with one arrival and one departure daily.

d). Direct service between Moncton and Halifax is comparable to that for Sydney, Charlottetown and Saint John. Fredericton has the poorest service to and from Halifax.

e). With the exception of Halifax, there is no direct service between Newfoundland and any of the Maritime centres.

6). Figures 3.3 to 3.14 inclusive graphically illustrate the existing levels of service at the various Maritime centres. Flights associated with each major centre are described by a set of two figures, one figure provides a summary of the arrivals at several

Maritime locations, while the other figure provides an overview of the departures from the same centres. The Maritime centres used in this comparison were Moncton, Fredericton, Saint John, Charlottetown, Halifax and Sydney. The major centres to which service to and from each of these Maritime points was compared included Halifax, St. John's, Montreal, Ottawa, Toronto and Boston.

7). In addition to the evaluation of the direct and indirect flights, the air schedules were examined to identify the extent to which service between Moncton and various other centres necessitates stop overs. This was achieved by reviewing the number of legs in the route structure necessary to accommodate trips between Moncton and various other locations. Table 3.4 (see page 2.15) summarizes this information. A review of Table 3.4 provides the following observations:

a). For arriving and departing flights at Moncton, only 5 of the 21 locations involve direct (one-leg) non-stop service. Eleven of the centres involve two legs on the inbound route structure to Moncton with three of the locations involving three leg route structures for inbound trips.

b). Similarly, outbound trips from Moncton involve two leg route structures for the service to 13 of 21 centres illustrated in Table 3.4. As well, 7 of the locations involve three leg route structures to achieve outbound service from Moncton.

8). Figures 3.17 to 3.20 illustrate the timing of scheduled flights between Moncton and selected intraregional and interregional locations and were prepared to indicate the potential for same day return trips from and to Moncton. The criteria for determining same day return opportunities is based on the desirable event times for air scheduling shown in Figure 3.21. These air schedule event times are based on work previously completed by the Study Team and further enhanced from information obtained from the focus group meetings held

in Moncton. At the focus group meetings, 7:00 a.m. was considered the earliest outbound flight departure time while 8:00 a.m. was considered the desireable outbound flight departure time.

9). Moncton has same day return opportunities for business in Montreal. The existing schedule provides an opportunity to achieve 9 hours and 39 minutes at the destination with the total time between departure of the morning flight and the return of the evening flight in excess of 12 hours. This is a good level of service in that it gives direct non-stop flight opportunity, provides a full business day at the destination and allows the traveller to be back on the ground in Moncton in the early evening.

10). Same day return service to Ottawa is provided by two flights daily. The first flight departs Moncton at 07:20 a.m., provides 6 hours and 33 minutes on the ground in Ottawa and returns to Moncton 19:33 p.m. This represents a total trip travel and work time of 12 hours and 13 minutes. The other flight opportunity again requires an 07:20 a.m. departure from Moncton with a return time of 22:00 p.m. This flight would permit a total of 8 hours and 43 minutes at the destination but would involve a total trip travel and work time of almost 15 hours. When ground access time to and from the airport is taken into consideration, this same day return flight results in an extremely long day.

11). Same day return service to Toronto requires in the vicinity of 15 to 16 hours of travel time plus the associated ground access times to and from the airport. On the ground time in Toronto is between 7 hours 45 minutes and 9 hours 30 minutes. This results in an extremely long day and can be considered as a poor level of service. Same day return flight opportunities to Toronto from Moncton is illustrated in Figure 3.17.

12). With respect to same day return opportunities from Moncton to cities within the Atlantic Provinces, Figure 3.18 clearly illustrates that

only in the case of Halifax is reasonably convenient return service available. Two opportunities are available which would permit same day return from Halifax. One opportunity provides a total of 8 hours and 32 minutes at the destination with a total return trip time of 9 hours and 44 minutes. The other opportunity provides approximately 14 hours on the ground in Halifax but results in a total travel time of about 15 hours, exclusive of access time to and from the airport.

13). Same day return service from Moncton to Charlottetown, Sydney and St. John's, Nfld. is realistically not available because of extended connect times for aircraft changeovers in Halifax. With respect to Charlottetown, the overall trip time (exclusive of ground access time) is 15 hours, with only 6 hours on the ground at the destination. A return trip to Sydney has similar characteristics. Return from St. John's requires an overall trip time (exclusive of ground access time) of 15 hours, with almost 8 hours on the ground. However, there is almost a 2 1/2 hour connect time at Halifax on the return portion of the trip.

14). In addition to reviewing the opportunities for same day return service for business activities outbound from Moncton, a similar evaluation was carried out to summarize the opportunities for inbound business trips to Moncton from the extra regional and regional centres. Figures 3.19 and 3.20 illustrate the summary of same day return business trip opportunities to Moncton from these locations.

15). From Montreal to Moncton there are two flight opportunities for same day return service. One provides a total of 9 hours and 32 minutes in Moncton with an overall trip time of in excess of 12 hours while the other option provides 7 hours and 22 minutes on the ground in Moncton with about 1 hour less overall trip time. However, this particular opportunity requires a flight to Halifax and a transfer at Halifax for the flight to Montreal.

16). The only realistic same day return opportunities to Moncton from Ottawa is that associated with the Air Canada Flight 640/650 inbound

in the morning from Ottawa, arriving at 10:48 with an outbound direct departure on Air Canada Flight 671 at 20:20 with arrival in Ottawa at 22:12. This provides 9 hours and 38 minutes at the destination on the ground in Moncton but involves a total of nearly 15 hours of travel and work time from the time of departure in the morning until the return at Ottawa airport in the evening. Furthermore, the arrival time back in Ottawa is 22:12. Obviously, by the time the traveller returns from the Ottawa airport to home base it would be approaching midnight.

17). For inbound service to Moncton from Toronto, there are three possible opportunities. Two of these involve inbound flights via Montreal and a combination of returns via Montreal, Halifax, or Ottawa. One of these same day return opportunities provides 7 hours and 22 minutes at the destination. This combination with the inbound trip via Montreal and the return via Halifax involves a departure of 06:50 a.m. and a return in Toronto at 20:53 p.m. The other opportunity results in a slightly longer period of time at the destination (9 hours and 22 minutes). However, this opportunity is a highly undesirable option since the flight is not scheduled to arrive back in Toronto until almost midnight. The third opportunity provides good return service, although it would be desirable to change the early 0650 hour morning departure.

18). Figure 3.20 illustrates the opportunity for same day return to Moncton from the Atlantic Region cities of Halifax, Charlottetown, Sydney and St. John's, Nfld. The opportunities for same day return to Moncton from Halifax are more extensive than for any other regional points. Two of the opportunities involve a very early departure at 06:00 a.m. from Halifax. These same day return opportunities provide 7 hours and 26 minutes or 11 hours and 36 minutes on the ground in Moncton.

19). Because there is a 3 hour connect time at Halifax for the Charlottetown to Moncton air trip, the same day business return opportunities from Charlottetown to Moncton are not at all

attractive. The departure from Charlottetown is at 07:45 a.m. with the return arriving on the ground at Charlottetown at 21:54 p.m. Thus over 14 hours are required to realize about 4 hours of useful working time at the destination in Moncton.

20). Similar opportunities for same day return from St. John's to Moncton exist. A total elapsed time from takeoff to touchdown back at the origin in St. John's is about 14 hours, with only 6 hours and 16 minutes available on the ground in Moncton. This trip involves a total of 3 hours and 28 minutes connection time in Halifax. An hour connect time appears to be the maximum acceptable time for business travel.

21). The inbound service from Sydney is also limited to a total of 6 hours and 16 minutes on the ground in Moncton for which it is necessary to spend 14 hours and 21 minutes from the time of morning departure in Sydney until touchdown back in the evening. A total of 5 hours and 40 minutes is required in Halifax for connection purposes.

22). If the existing schedules illustrated in Figures 3.17 to 3.20 are reviewed in conjunction with the suggested desirable event times shown in Figure 3.21, it is evident that for the most part the morning departures are consistent with the earliest desirable outbound departure time. The exception to this, however, is the early morning flight to Moncton from Halifax (PV 221) which departs at 06:00 a.m., arriving at 06:34 a.m. This is an undesirable schedule feature for which it appears adjustments could be made.

23). Reviewing Figures 3.17 to 3.20 with respect to the latest arrivals in the evening, it is evident that the scheduling is less desirable than is the case for the morning departures. In several cases the arrival times are later than what would be considered an extreme late time limit of 23:00 p.m.

24). More specifically, the return trip from Toronto via Halifax results in arriving after the latest desirable time. This results from the

wait and connection with flight PV 227 out of Halifax to Moncton. To an even greater extent, the Air Canada evening return from Toronto to Moncton via Saint John results in over 50 percent of the total flight time from departure to arrival being after the desirable arrival time.

25). For the same day return opportunities to Moncton from Central Canadian cities (see Figure 3.19), it is evident that the opportunity to return to the trip origin is less than desirable from Ottawa.

26). Figure 3.20 illustrates the deficiency in the existing scheduling for same day return opportunities to Moncton from several other Atlantic Region cities. It is evident that the return opportunities from Halifax to Moncton are well within the acceptable criteria. However, the opportunities for same day return from Charlottetown, Sydney and St. John's all fall outside the latest desirable arrival time of 21:00 p.m. Perhaps the most critical aspects of this existing scheduling relates to the amount of time available at the destination and the overall travel time.

27). Table 3.6 (page 3.28) summarizes the number of weekly flight arrivals and departures and the weekly number of available seats for various Canadian and American cities. Also included in Table 3.6 for the Canadian cities are the catchment area populations and the weekly available seats per capita.

28). On the basis of weekly available seats per capita for Canadian cities, it can be observed that Moncton, Fredericton, Sarnia, Windsor, London and Sudbury have comparable levels of service. These communities have between 0.033 and 0.047 weekly available seats per capita. Saint John, St. John's, Sydney, Charlottetown and Sault Ste. Marie have substantially better service than Moncton with weekly available seats per capita ratios between 0.066 and 0.082. However, Halifax, North Bay and Thunder Bay have between 3.5 and 5 times more seats available per capita than Moncton.

29). With respect to the communities in the United States, it is interesting to note that the larger centres of Portland and Bangor have substantially higher levels of service (in terms of available seats) than Moncton. The air service at Burlington and Manchester is substantially more extensive than what exists at Moncton as well.

30). Based on data provided by Air Canada, the overall average monthly on-time performance of all Air Canada flights (inbound and outbound combined) at Moncton is equal to 88 percent for the year. Monthly values range from a low of 81 percent in August to a high of 96 percent in January. The criteria by which Air Canada measures conformance to on-time performance is to achieve not more than a maximum of 5 minutes delay, with wheel start or wheel stop being used as the reference time.

31). No on time performance data are currently available for EPA; however, the Greater Moncton Chamber of Commerce independently carried out a survey of on-time performance for both Air Canada and EPA during the months of March, April and May of 1985. The on-time performance for Air Canada during the 3 months in question varied from a low of 57.2 percent on arrivals to a high of 78.3 percent. The on-time performance for departures was substantially better with the low occuring in April during which there was 75 percent on-time performance and the high in May of 93.7 percent on-time performance.

32). The EPA performance for arrivals was less than 70 percent for both March and April and 73.2 percent for May. However, the departure performance for EPA varied from 80 percent in March to a high of 85.1 percent in April.

33). The difference in Air Canada's on-time performance data and that collected by the Chamber's survey is difficult to explain. One possible explanation could be the conformance reference point utilized by Air Canada versus the Chamber's survey.

34). During the spring of 1984, the Greater Moncton Chamber of Commerce carried out a comprehensive survey of its membership. This survey was designed to provide an indication of the nature of business travel requirements. The survey provided data relating to the following topics:

a). business travel patterns;
b). assessment of existing air services in Moncton (regarding scheduling, frequency, reliability and quality);
c). comments regarding improvements desired; and
d). comments regarding the use of Halifax Airport as an alternative to the Moncton Airport.

35). Section 3.9 provides detailed discussions of the results of the Chamber's survey.

36). An analysis was conducted to determine if the fare structure associated with Moncton oriented trips is consistent with those at other Maritime airports. The results of this analysis indicated that the rate structure for each of the three cities reviewed (Moncton, Saint John and Fredericton) is consistent.

37). Table 3.9 (page 3.42) provides a summary of the modal fares between Moncton and 14 destinations. These are one-way fares for bus, rail, auto and air travel. Within the Maritime Region bus, rail and auto are all substantially lower than the air fare, with bus and rail travel much lower than auto.

38). The distinct advantage of utilizing air over automobile for long distance travel can be seen in Table 3.9. Within the Maritime provinces travel cost by automobile is less than air, and in many cases, substantially less expensive. As travel distance increases, air travel becomes cheaper than auto. This is shown for trips to St. John's, Montreal, Ottawa and Toronto.

39). Generally, the private vehicle can compete favourably with air travel with respect to travel times involving distances up to 240 kilometres. By private automobile this is approximately a 2 1/2 to 3 hour trip. By air, including access time to and from the airport, check in time and baggage handling, a similar trip would approach 2 1/2 hours. Thus a 240 kilometre auto trip, which is a relatively common maximum distance between many major regional centres, is comparable in travel time to air but has the added advantage of being substantially less expensive. This makes it very difficult for any local air service airline to develop a substantial air passenger market on trip segments of 240 km or less.

Chapter 4.0 - Evaluation of the Existing Demand Patterns

40). The long term historical trend for revenue passenger activity at Moncton between 1963 and 1983 is illustrated in Figure 4.1. Passenger activity in this period shows an overall long term growth trend, with substantial flucuations. In particular, there have been significant downward trends in the late 1960's and again in the mid portion of the 1970's, with a minor recovery during the years 1979 and 1980. A consistent downward trend has occured between 1981 and 1983.

41). The volume of total enplaned and deplaned passenger activity at Moncton is reasonably stable throughout the year. The distribution of demand is approximately equal in the inbound and outbound directions.

42). The load factors achieved on the Moncton service by Air Canada are probably as close to optimum as possible, without resulting in substantial delays to Moncton related passengers wishing to make reservations.

43). Figures 4.6 and 4.7, as well as Table 4.1 (page 4.6), reveal that the vast majority of the existing Moncton Airport traffic activity is

between Moncton and Toronto, Montreal and Ottawa. The next level of activity occurs on the links between Moncton and St. John's, Halifax, Calgary and Edmunton.

44). Recent Transport Canada forecasts indicate that the peak 1980 passenger volumes probably will not be reached again until the late 1980's.

45). Table 4.3 (page 4.10) summarizes the air trip per capita generation rates based on total catchment area populations for the major Atlantic Region centres. The observations which can be drawn from the generation rates illustrated in this table are:

a). The generation rates for the three New Brunswick airports (Fredericton, Moncton and Saint John), range from 0.40 to 0.47 trips per capita for enplaning traffic and 0.38 to 0.46 for deplaning traffic. For both enplaning and deplaning traffic the highest value in these ranges relate to Moncton.

b). The per capita air passenger generation rate for the Halifax Airport is about 0.70. This is substantially higher than the values at the New Brunswick cities, and it is probably attributable to the major regional business functions which occur in Halifax and the Atlantic Regional hub operational aspects of the airport.

c). A slightly higher generation rate for Charlottetown traffic results in part from the degree of isolation associated with an island province. This is also a primary reason for the substantially higher rate for St. John's, Nfld.

d). The per capita generation rates for the cities in Ontario are generally substantially less than those for the Atlantic Region cities (see Table 4.2). The only two cities which have passenger generation rates equal to or greater than at Moncton are Sault Ste. Marie and Thunder Bay. These municipalities are

of comparable size but are more isolated from the larger metropolitan centres in Ontario than most of the other Ontario cities included in this general comparison.

Chapter 5.0 - Evaluation of Potential Impacts of the New National Air Policy

46). The fore runner to the proposed new Canadian air policy was initially announced in May, 1984 by the then Minister of Transport, Honourable Lloyd Axeworthy. This was followed in July, 1985 by the Freedom to Move paper presented by the present Minister of Transport, the Honourable Don Mazankowski. These two policy statements have and will continue to create a new direction for the Canadian airline industry.

47). The passenger airline industry is generally considered to be a mature industry and is relatively concentrated, that is, a small number of carriers earn a large fraction of the total revenue earned by the industry (See Table 5.1, page 5.2).

48). The airline industry relies very heavily on long term debt for its financing. As a consequence, even though operating margins may be positive, non-operating expenses such as interest charges are having a major impact on the bottom line (see Table 5.3, page 5.5). The data in this table also suggest that some carriers are not particularly well positioned from a financial point of view for deregulation. Their debt loads are excessive and their working capital position has eroded.

49). The industry is very sensitive to economic conditions, thereby producing a very cyclical earning stream. Capacity in the industry tends to be added in large increments. In combination these factors tend to generate periods of instability in the industry characterized by a high propensity to discount fares.

50). Two categories of expense, salaries and fuel, dominate airline operating costs. Accordingly, it should not be surprising that labour relations within the industry have become somewhat turbulent in the recent past as airlines attempted to become more lean in the deregulated environment.

51). In May, 1984 the former Minister of Transport, Mr. Lloyd Axeworthy, announced a new Canadian Air Policy which significantly liberalized airline regulation in Canada. The intent of the policy was to promote a healthy, innovative, competitive airline industry, thus generating to the Canadian air consumers substantial benefits in pricing and service options developed by the airline industry.

52). The objectives of the new policy were to:

a). provide consumers with a wider range of price service options better adopted to their differing needs and references;

b). invigorate the industry and provide a stimulus to growth;

c). promote national integration through increased domestic air travel;

d). improve the airline industrys' efficiency and productivity, and encourage innovation; and

e). counter the seepage of passenger traffic via U.S. gateways just across the border.

53). When the new policy came into effect, a number of carriers including EPA, consolidated their licenses. With consolidation, any combination of service involving the communities identified on the licenses is possible. Many existing carriers have applied and been granted new routes.

54). Following the new air policy, a new government was elected and with the new government came further moves toward economic deregulation of the transportation industry. In July, 1985 the Minister of Transport, the Honourable Don Mazankowski, put forward specific proposals for economic regulatory reform in the transportation sector.

55). These proposals were documented in a white paper entitled Freedom to Move - A Framework For Transportation Reform and were based on the following principles:

a). Less regulation, leading to less government interference, will encourage innovation and enterprise.

b). Greater reliance on competition and market forces will result in lower unit costs, more competitive prices, and a wider range of services to shippers and the public.

c). Inflexible, restrictive regulation is an obstacle to growth, innovation and competitiveness.

d). Canadians require a regulatory process that is open, accessible, and not excessively costly or time comsuming.

e). Government should provide direct support to those transportation services that, though not economically viable, are deemed to be in the public interest. In this regard, users should also bear their fair share of costs.

f). Measures should be taken to assist those who might suffer severe economic dislocation under a new regulatory regime.

56). Under the old policy, applications for the provision of domestic commericial service was judged on a "public convenience and necessity" concept. Under the new policy entry into any class of domestic commercial air service will be governed by a "fit, willing and able" requirement.

57). Based on the new air policy, the following observations relating to future air services in the Atlantic region have been made:

a). Some concentration of incumbent carriers might materialize as carriers attempt to expand their networks through merger or acquisitions. The CP Air/EPA merger and the acquistion of Time Air by PWA are recent cases in point.

b). Service offering will likely be more closely matched to demand with the high density routes receiving the greatest benefits in this regard. For areas like the Maritimes, it is important to be cognizant of the potential that some communities may experience significant deterioration in the level of air service provided by the major carriers.

c). The benefit of increased pricing flexibility may not be shared equally by all communities. The propensity for discounting will be stronger on medium to high density routes.

d). It can be expected that Halifax will continue to emerge as a dominant hub in Atlantic Canada, as has been the trend in the last few years.

e). Regarding westbound services between Atlantic Canada and Central Canada, it is possible that some jet services will be shared by at least two cities.

f). Many people in the transportation industry believe that any loss of national and regional carrier service will be replaced by small commuter operators. It is probable that successful commuter operations may be those which form alliances with the major carriers to feed traffic into the major hubs. For the commuter operator this provides the opportunity to eliminate some of the overhead costs such as reservation systems, and for the major carrier, the primary benefit is the ability to feed passenger traffic through a single hub.

g). There is little doubt that the air carriers under a less economic regulated environment will be very interested in ensuring that both their operational and financial productivity is maximized and this can only occur effectively on the more dense routes where traffic volumes support head to head competition.

h). The impacts of less regulatory control have already been felt throughout the Atlantic Region and this will continue. The relaxation of market exit has resulted in notice by Air Maritime to discontinue existing turbo prop service, which presently exists in the Maritime provinces, early in 1986. However, the relaxation of entry control based on a "fit, willing and able" requirement has resulted in at least 5 applications by potential operators to fill part or all of the void that will be left by Air Maritime's departure.

i). Most experts agree that deregulation will initially result in much higher intra-regional air service levels, with Halifax serving as a primary hub for the Maritime Provinces. It is anticipated that the intra-regional services will be provided by turbo prop aircraft and that fare levels are not likely to decrease to any significant extent.

j). Communities with existing jet service to Central Canada could see a deterioration of that service with respect to frequency of service and convenient arrival and departure times. Although many communities in the Maritime Provinces will retain their Central Canada jet service in one form or another, there could be sharing of this service by two communities to increase aircraft loads.

Chapter 6.0 - Assessment of Future Market Potential

58). To assist in the assessment of market potential for local air services, various existing sources were obtained and reviewed. These

included Statistics Canada historical origin/destination and enplaned/deplaned data, Greater Moncton Chamber of Commerce air service survey completed in 1984, forecasts developed by the Canadian Air Transportation Administration in preparation of the New Brunswick Area Aviation Master Plan and the Moncton Master Plan, traffic forecasts completed in previous efforts and passenger forecasts submitted with various applications for air service in the Atlantic Region.

59). In addition to the above inputs, increased efforts regarding the nature and approach to analysis of future demand for local air service in Moncton was completed. This activity included input derived from a series of focus group discussions with business people in the Moncton area. A demand model was developed to estimate the passenger traffic activity at the airport level. The demand model estimates the number of trips associated with a particular airport based on the population of the catchment area, an accessibility factor, an availability factor and a constant based on the average generation rate in the Atlantic Region. The demand model estimates air passenger trips at existing airports within 10 percent of the observed volumes.

60). This model was used to estimate the annual air passenger trips which might be expected from Charlo, Bathurst and St. Leonard on a local air service network. Other input included the previous origin/destination data, other forecasts and supplementary information obtained from the focus group meetings.

61). During the week of October 14, 1985 the focus group meetings were held in Moncton with groups of business people who utilize air travel at various levels. One group was represented by large regular users, including public and private sector business people, another group was composed of medium sized organizations and the third group was composed of smaller sized organizations. Because of difficulties in

attempting to form a focus group composed of potential air service users who do not normally travel by air, comments and opinions of these business people were recorded through numerous telephone conversations.

62). Although three separate focus group meetings were held with various sizes of organizations, generally it can be stated that the comments received were consistent for almost all air service characteristics. The air service characteristics obtained from the focus group meetings included identification of major business areas, modal selection factors, same day return criteria, arrival/departure same day return time criteria, aircraft type, in-flight services and existing problem areas.

63). The discussions with business people resulted in the following major areas being identified as to where they conduct their business and to which they desire good air service:

- Sydney;
- St. John's
- Saint John;
- Charlottetown;
- Fredericton;
- Halifax;
- Montreal;
- Ottawa; and
- Toronto.

Three other areas were also mentioned as business interest areas in the region:

- Charlo (Campbellton/Dalhousie);
- Yarmouth; and
- Edmundston.

However, it was indicated that there is not a large demand associated with these three areas.

64). It should be noted that only two travel modes are considered by focus group participants as being viable for business travel throughout the Maritime Provinces. These two modes are the private automobile and air. Bus and rail transportation are not considered realistic business travel options.

65). Most business people indicated that travel time is the major criteria for selection of a transportation mode, and if the reliability of air flights could be increased above what exists at the present time, air would be utilized much more frequently for regional travel. Cost is not a major factor in the selection process, if overall travel time can be reduced.

66). Although frequency of flights is of concern, business people recognize that demand does not always justify higher frequency. However, smaller aircraft operated more frequently could satisfy both convenience and frequency concerns with respect to regional travel.

67). Same day return associated with business travel in the region is a major service requirement. In terms of travel to other regions of Canada, more specifically Ottawa, Montreal and Toronto, same day return is also important, although being able to complete a full day's business at the destination is of more importance.

68). With travel either in the region or external to the region, the earliest departure time from the origin is considered to be 07:00 a.m. while the desirable departure time is 08:00 a.m. Within the region or external to the region, a minimum of six hours at the destination to conduct business is considered essential. A desirable return time from travel within the region is considered to be between 5 to 7 p.m. Desirable return time from Ottawa, Toronto or Montreal is 8 p.m. The latest arrival time from any same day return trip is considered to be 11 p.m. A one hour connect time was considered reasonable for all regional or extraregional flights.

69). Turbo prop aircraft providing sufficient space for leg and seating room would be readily acceptable for regional short haul travel. An 8 to 10 seat aircraft would probably represent the smallest acceptable turbo prop with a Twin Otter or Dash 8 type aircraft more desirable.

70). The provision of in-flight service for regional travel is not considered a necessity because of short flight times. The provision of newspapers/magazines and coffee would satisfy most in-flight service requirements.

71). The existing problem areas identified from the Moncton focus group meetings and numerous telephone interviews included:

a). reliability of Air Maritime's scheduled flights to/from Halifax;

b). poor service exists to Charlottetown and Sydney for same day return because of extended between flight times at the Halifax air terminal;

c). available seats to and from Moncton in peak periods is considered a problem;

d). the image of the HS 748 is bad;

e). connection to Boston is poor;

f). long waits in Halifax on flights to/from St. John's and Sydney. One hour connect time is considered reasonable; and

g). air freight service to Newfoundland is poor.

72). Overall there is not a large demand for intraregional (local) air service in the Atlantic Provinces. Many of the communities identified are within 240 kilometres of each other, and thus are

within reasonable automobile travel time and associated travel cost. Any local air service implemented, utilizing these communities within a route structure, would have to operate with a very high degree of reliability and on-time performance to divert traffic from the automobile.

73). Another important factor a local air service based in Moncton would have to contend with is competition. Presently, both Air Nova and Air Atlantic have applied to implement Dash 8 service in the Atlantic Region on most major routes. (Air Atlantic has recently been given approval to implement service.) Thus places like Moncton, Fredericton and Saint John will have the opportunity of direct service to Halifax from two separate and competing airlines. Any local air service could not realistically hope to compete in this market area.

74). Other applications have been received to provide local air service between many of the communities identified for potential local air service. If these airlines become a reality, there will be significant competition for shares of a relatively small market, a market dominated by the automobile.

75). Table 6.3 (page 6.30) summarizes in origin/destination format the demand estimates associated with the nine communities identified for local air service. These volumes were used as a basis for the development of strategies for improving air services at Moncton.

Chapter 7.0 - Evaluation of Local Air Service Options

76). Following the focus group meetings with various business people in the Moncton area and an assessment of future market potential, a two tier list of cities/towns to be included in the development of local air service route network scenarios was developed and approved by the Study Steering Committee. The primary or first tier of cities included: Moncton, Fredericton, Saint John, Sydney, Halifax and Charlottetown. Three other communities, Bathurst, Charlo and St. Leonard were also included in the route structure alternatives.

77). Based on potential demand associated with the various communities listed above, four separate air service networks were developed and detailed operational and financial analyses produced. Figure 7.1 illustrates the four air service networks which were evaluated in detail with respect to operational and financial characteristics.

78). The assumption was made that any local air service would have the characteristics of an emerging carrier as follows:

a). have a shortage of liquid funds and possible under capitalization;

b). use second hand airplanes, either purchased or leased;

c). use non-union labour in order to keep down its operating costs;

d). subcontract out maintenance and overhaul of its airplanes to specialist companies or large airlines;

e). subcontract out to specialists companies or other airlines the handling of passengers and airplanes on the ground;

f). have a flexible use of manpower;

g). sell airline tickets through travel agents rather than set up its own ticket offices; and

h). have loosely defined administration processes.

79). Table 7.1 (page 7.6) summarizes the age, gross weight, engine type, cruising speed, passenger seating, average purchase price and annual lease rate for various aircraft types utilized in the local air service analyses. The basic unit cost per hour, per flight cycle and weekly costs are shown in Tables 7.2 and 7.3 (pages 7.8 and 7.9, respectively) for the various air service network scenarios.

80). The fare structure utilized throughout the analysis was approximately three times that proposed by Air Nova in their application to the Canadian Transport Commission. This fare structure was used because it represented a level at which the best air service network scenario would be profitable to the operator.

81). It was assumed no fewer than two round trips per day on the flight legs specified for the air service network alternatives would be operated at a weekly frequency of no fewer than three days (Monday, Wednesday and Friday). There would be no operations on Saturday or Sunday. It was also assumed no flight would originate before 6:50 a.m. and no flight would terminate after 10:00 p.m. The first flights of the day would arrive at the priority destination before 10:00 a.m.

82). Six airplanes were selected for this study in order to provide a range of manufacturers, sizes and types. They are as follows:

a). deHavilland Dash 8 (DCH 8);

b) deHavilland Twin Otter (DCH 6);

c). Beech Queen Air (B 80);

d). Cessna 402;

e). Piper Chieftian (PA 31); and

f). Piper Aztec (PA 23).

83). A summary of the results of the detailed evaluation are shown in Table 7.4 (page 7.16). Only the airplanes best suited from a financial point of view are listed in this table, although all six aircraft types were evaluated. As indicated previously, in order to make one network profitable with the best suited airplanes, it was

necessary to increase the general fare level to about three times that proposed by Air Nova in their application to extend air services from Newfoundland to the Maritimes.

84). The best air service network alternative, based on financial and level of service considerations, is network #2 (see Figure 7.1). The income before taxes is estimated at $157 000 at a fare level three times that proposed by Air Nova. The income before taxes as a percent of revenue is 6.8 percent.

85). There are several problems common to all four air service networks being evaluated. The detailed evaluations completed lead to the following conclusions being made:

a). There is an insufficient number of potential business travellers to justify setting up a profitable local air service airline.

b). The Moncton to Halifax route shows the largest single origin/destination passenger flow and represents a significant percentage of each alternative network's activity. Yet two other carriers, Air Atlantic and Air Nova will soon be flying this leg, catering to the business passenger with new, pressurized Dash 8 airplanes.

c). Because of the time of day and day of week demand profiles, airplanes and station staff are idle for 6 to 8 hours during the middle of the day. Productivity is extremely low and high passenger volumes would not cure the situation. Although second hand piston powered airplanes are relatively cheap and poor productivity does not materially affect bottom line, the use of new turbo prop airplanes, such as the Dash 8, could not be financially justified for any of the four alternative air service networks evaluated. This is true even if there were significantly larger potential passenger volumes.

86). All four air service networks evaluated would not make a profit in the first year unless the fares charged were three times those of Air Nova's proposed fares. It is very doubtful business travellers would be willing to pay the fares necessary to generate a breakeven operation. Thus if an airline were set up to provide local air service on any of the four air service networks shown in Figure 7.1, an operating subsidy would be required.

87). The level of this subsidy would depend on the route structure and the fare charged. Assuming an airline was set up and operated with a fare structure similar to that proposed by Air Nova, the first year operating subsidy required by the airline to break even would be as follows:

Network # 1	$913 000
Network # 2	$1 215 000
Network # 3	$1 167 000
Network # 4	$1 165 000

88). If it is assumed the fare structure and costs will increase at an equal rate annually, then it would require a 10 percent annual growth rate in passengers over a 10 year period before Network #2, #3 and #4 would break even. Network #1 would break even in 8 years with the same conditions. A 10 percent annual growth rate should be considered very optimistic. Thus it is most probable an operating subsidy would be required for any of the four networks.

89). The detailed route structures, flight schedules, annual passenger origin/ destination data, operating and financial statistics and financial summaries for the various aircraft types for each air service network alternative has been prepared and is provided in Section 7.5.

Chapter 8.0 - Development of Air Service Improvement Strategies for Moncton

90). Chapter 8.0 was prepared to consolidate the primary results which were derived from the study and provides a general development strategy for provision of air service at Moncton.

91). The most important characteristic with respect to the provision of air service at Moncton is reliability. In the past Moncton business people have been faced with an unacceptable level of delays and flight cancellations associated with regional flights. Improvements in reliability should increase demand on many regional air links.

92). Business people in the Moncton area require same day return for both regional air travel and travel to Montreal, Ottawa and Toronto. There is a need to improve flight schedules associated with Moncton to provide same day return, especially regionally.

93). The greatest deficiencies in the provision of same day return between Moncton and Sydney, Charlottetown and St. John's, Newfoundland is the delay associated with connect time at the Halifax terminal. In some cases this connect time totals in excess of six hours and results in a limited time to conduct business at the destination and an unacceptable overall trip time from morning departure to evening arrival back at the origin.

94). There is a 0600 hour Halifax departure to Moncton which is considered to be too early. It would be desirable to change this flight time to between 0700 and 0800 hours. This change would provide excellent same day return opportunities between Moncton and Halifax.

95). To the external centres of Montreal and Ottawa, same day return service is adequate. However, improvements are necessary between Moncton and Toronto. From Moncton to Toronto the evening return

flight arrives after the 2300 hour latest arrival time criteria established by Moncton business people.

96). Moncton business people are aware that regional jet service is expensive and that this type of service can most economically be provided with turbo prop aircraft. However, it is important that this type of aircraft have a cabin design which provides sufficient leg and seating room and reduces the in-cabin noise from the engines. The HS 748 is not considered a reliable or comfortable aircraft.

97). In-flight service requirements for regional travel are not considered a necessity because of short flight times. The provision of newspaper/magazines and coffee would satisfy most in-flight service requirements.

98). Other areas where improvements are required include:

- increase in available seats during peak periods;
- better access to the New England area (Boston); and
- extension of regional routes to northern New Brunswick.

3.0 EVALUATION OF EXISTING AIR SERVICES

3.1 Introduction

This chapter provides an overview of the evaluation of existing air service characteristics in Moncton. At the same time, several of the variables considered in this evaluation are also presented for other Maritime centres. In some cases, general comparisons are also made with comparible centres in Central Canada and the New England states. Because of the nature and character of Moncton and its geographic location, the air service in Moncton was reviewed in a regional context. Consequently, the evaluation of many air service aspects have been presented for a number of communities throughout the Atlantic Region. Furthermore, in some cases information is also provided for several other comparable communities in Ontario and the New England States. This latter comparison provides the opportunity to review the air service in Moncton in conjunction with the level of service that may be provided in other regions of Canada and the New England seaboard of the United States.

Most of the evaluation in this section relates to the summer schedule of air services to Moncton. These services were provided by two carriers: Air Canada and the regional carrier, Eastern Provincial Airways (EPA). Although EPA has recently been bought by Canadian Pacific Airlines Ltd., present services are very similar to what existed in the summer, 1985.

By way of introduction, it can be noted that the summer, 1985 airline schedules for both Air Canada and EPA were examined in detail for purposes of providing an overview of the scheduled service throughout the Atlantic Region. The information included in the schedules was plotted to illustrate the time - distance/location relationship for all flights serving the Atlantic Region. Separate working plots were prepared for the following elements of the scheduled air service in the region:

- Air Canada (DC-9 Jet Service);
- EPA (Boeing 737 Jet Service); and
- EPA Hawker Siddeley-HS748 Turbo Prop Service).

These graphic illustrations of the existing schedules for the two air carriers provide a detailed overview of the route patterns, aircraft allocation and scheduling sequences for all flights serving the communities in the Atlantic Provinces, as well as their connections to the major westbound Canadian points of Montreal, Ottawa and Toronto and Boston in the United States.

Although these detailed illustrations were essentially in excess of the basic requirements of this project, it provided a current overview of the regional air service schedules from which more detailed and specific analyses could be undertaken. These regional schedule time - distance/location plots were only prepared as working diagrams for analytical purposes. Similarly, more detailed diagrams have been consolidated from the overall schedules to illustrate the opportunities for same-day return between a number of Maritime centres as well as between these points and the major extra-regional air service points. These subsequent analyses are described in Section 3.5. An example of the specific time - distance/location plot for air service between Moncton and the primary centres in Central Canada is shown in Figure 3.17.

It should be noted that the summaries produced and discussed in this chapter become more detailed in each successive section. For example, Section 3.2 discusses the available overall service at Moncton in terms of daily and weekly summaries, while Sections 3.4 and 3.5 discuss details relating to routing patterns and scheduling.

3.2 Summary of Daily and Weekly Air Services Between Major Regional Centres

The first step in the analysis of airline schedules resulted in a summary of the daily and weekly air schedules between Moncton and a variety of communities throughout the Atlantic Region, Eastern Canada and New England. The detailed information resulting from this analysis is summarized in Table 3.1.

Table 3.1

TOTAL FLIGHT ARRIVALS AND DEPARTURES BETWEEN MONCTON*
AND VARIOUS LOCATIONS (SUMMER 1985)

Period		1. CHATHAM	2. CHARLO	3. MONCTON	4. SAINT JOHN	5. FREDERICTON	6. HALIFAX	7. SYDNEY	8. YARMOUTH	9. CHARLOTTETOWN	10. ST. JOHN'S, NFLD.	11. GANDER	12. DEER LAKE	13. STEPHENVILLE	14. GOOSEBAY	15. CHURCHILL FALLS	16. WABUSH	17. MONTREAL	18. MAGDALEN ISLANDS	19. ST. PIERRE DE MIQUELON	20. OTTAWA	21. TORONTO	22. BOSTON
Monday	**A				1		4	3	1	3	3	3	2	1	1			5	1	1	4	7	2
	***D				1		4	2	1	3	3	3	2	1				5	1	1	4	7	2
Tuesday	A				1		4	3	1	3	3	3	2	1				5	1	1	4	7	2
	D				1		4	2	1	3	3	3	2	1	1			5	1	1	4	7	2
Wednesday	A				1		4	3	1	3	3	3	2	1	2			5	1	1	4	7	2
	D				1		4	2	1	3	3	3	2	1				5	1	1	4	7	2
Thursday	A				1		4	3	1	3	3	3	2	1				5	1	1	4	7	2
	D				1		4	2	1	3	3	3	2	1	1			5	1	1	4	7	2
Friday	A				1		4	3	1	3	3	3	2	1	2			5	1	1	4	7	2
	D				1		4	2	1	3	3	3	2	1				5	1	1	4	7	2
Saturday	A				1	1	3	1		1	2	2		1	1			4		1	3	6	1
	D				2	1	3	1	1	2	1	1	1					4	1	1	3	6	1
Sunday	A				1	1	3	1		1	2	1	1					4		1	3	5	1
	D				2	1	3	1	1	2	2	1	1		1			4	1	1	3	5	1
Weekly Total	A				7	2	26	17	5	17	19	18	11	6	6			33	5	7	26	46	12
	D				10	2	26	12	7	19	18	17	12	5	2			33	7	7	26	46	12

* - Include all connecting flights.
** A - Number of Flights arriving in Moncton from the location listed across top of the table in the time period noted.
*** D - Number of Flights departing Moncton to the destination listed across the top of the table in the time period noted.

As is apparent from this table, the summary information provides a detailed illustration of the number of arrivals and departures per day between Moncton and 22 other municipalities. These municipalities include cities which are currently served from Moncton, as well as some which are not now served. The arrival and departure flights are also subtotaled on a weekly basis to determine the total flights available with the current air schedules. The weekly totals have also been illustrated in Figures 3.1 and 3.2. It is evident from these figures that the Moncton air service is oriented toward Toronto, Montreal and Halifax.

It is important to note that the information summarized in Table 3.1 includes not only direct flights but also all connecting flights. As noted previously, the information summarized is based on the summer, peak season schedules in operation for 1985.

Although there is extensive information in Table 3.1, the following specific observations* can be drawn:

a) It is evident that the existing schedules for air service to and from Moncton exclude the possibility for connections to Charlo and Chatham. It is not possible to obtain service to other Atlantic Region centres including Churchill Falls and Wabush during the same day.

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* Based on the total number of flights available. At this stage this summary disregards the convenience of such flights. Further discussion of the scheduling and provision of service is provided in Section 3.5.

FIGURE 3.1

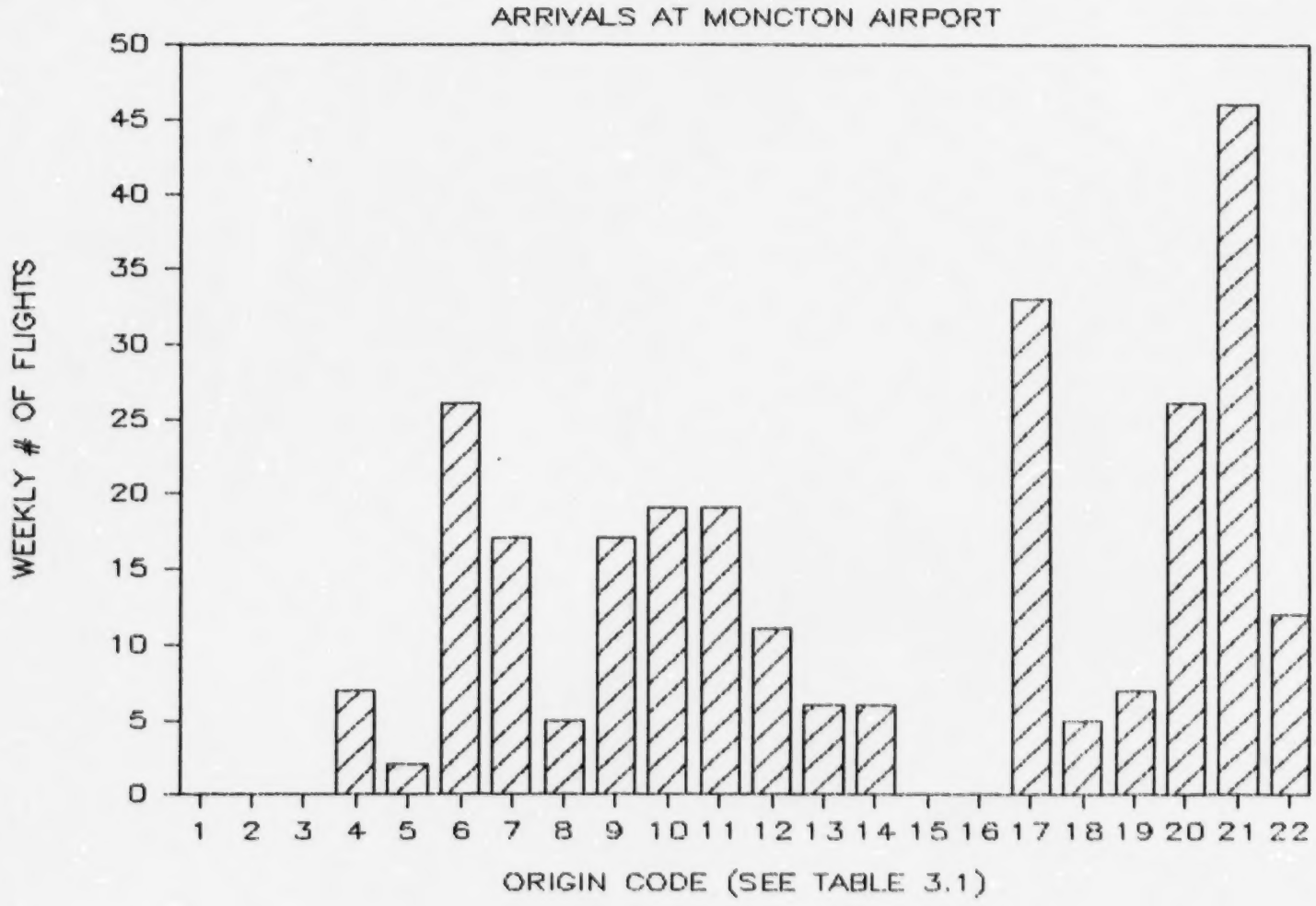
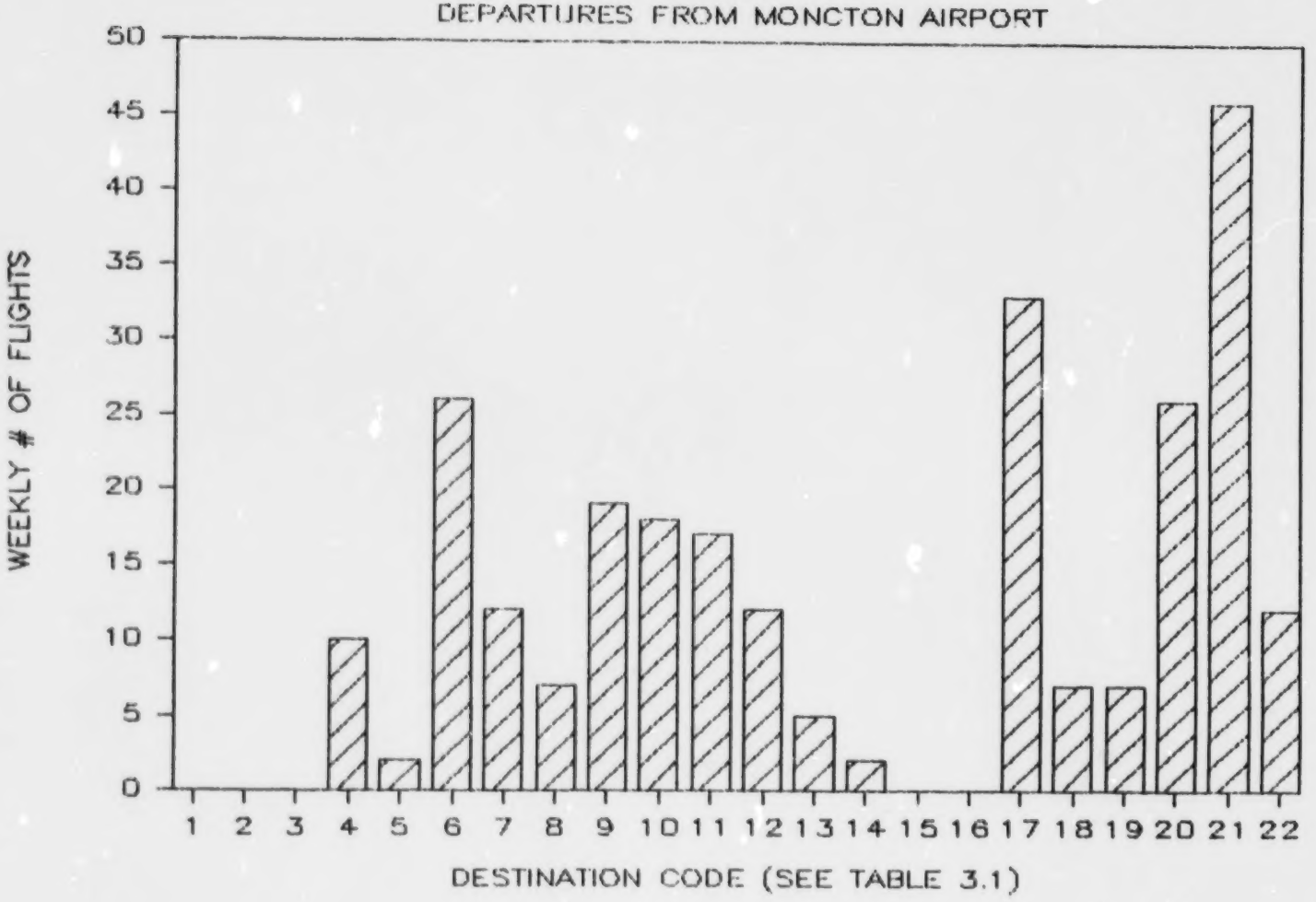

ARRIVALS AT MONCTON AIRPORT
WEEKLY # OF FLIGHTS
0
5
10
15
20
25
30
35
40
45
50
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
ORIGIN CODE (SEE TABLE 3.1)

FIGURE 3.2


DEPARTURES FROM MONCTON AIRPORT
WEEKLY # OF FLIGHTS
0
5
10
15
20
25
30
35
40
45
50
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
DESTINATION CODE (SEE TABLE 3.1)

b) The services to the Magdalen Islands, St. Pierre & Miquelon and Yarmouth are restricted effectively to a maximum of one flight per day each way. Such services can only be achieved with aircraft changes in Halifax.

c) Generally, with the exception of some minor variation, the schedules are such that the number of arrivals from any specific municipality is equal to the number of departures outbound to the same municipality.

d) In descending order of the magnitude of flight opportunities, the major centres for which there is generally daily service are Toronto, Montreal, Halifax, and Ottawa. The frequency of both arrivals and departures from Toronto is normally 7 per day. Montreal has 5 arrivals and 5 departures per day while Halifax and Ottawa have 4 per day each way. St. John's, Newfoundland, Charlottetown and Gander have 3 per day each way. There are also 3 arrival and 2 departure opportunities per day between Moncton and Sydney. Deer Lake and Boston typically have 2 arrival and departure opportunities daily.

e) Normally the frequency of flights is less during the weekends than on the weekdays.

f). There is a total of 7 840 available seats weekly between Moncton and all other communities.

In addition to the daily and weekly information for Moncton summarized in Table 3.1, similar total air service arrival and departure flights for six other major Atlantic Region cities were developed and summarized. These other cities include:

- Fredericton;
- Saint John;
- Halifax;

- Sydney;
- Charlottetown; and
- St. John's, Newfoundland.

Although comparitive data to that shown in Table 3.1 were summarized for each of the above cities, they have not been included in this document. However, Table 3.2 has been prepared to summarize the total weekly flights associated with the centres listed above. This comparative summary illustrates the general nature of service between Moncton and the other regional centres as well as the major external centres. Comparing the various regional centres, the following can be noted:

a) The service between Halifax and all of the centres external to the Maritimes is superior to any of the other five locations included in Table 3.2. This is not surprising because of the international and regional nature of Halifax. Typically, the flights available between Halifax and other extra-Maritime centres is approximately twice the magnitude of those at Moncton.

b) Considering service to and from Montreal, Moncton has a total of 33 flights per week each way. Fredericton has 14 arrivals and 15 departures while Saint John has 19 arrivals and 24 departures. Charlottetown has 19 arrivals and 19 departures. Halifax has 60 arrivals and 61 departures with Sydney having 27 arrivals and 32 departures. For this key external centre of Montreal, Moncton service in terms of total available flights is generally better than that available at other Maritime cities, with the exception of Halifax.

c) With respect to service to Ottawa, the service at Moncton is comparable to that in the other Maritime cities, except for Charlottetown which has a poorer degree of service.

d) Considering Toronto, the flights available at Moncton are generally better than at the other cities (except for Halifax).

Table 3.2

TOTAL WEEKLY AIR SERVICE FLIGHTS BETWEEN MAJOR CENTERS
(Including Flights Resulting from Connections)

	Moncton		Fredericton		Saint John		Charlottetown		Halifax		Sydney	
	A*	D**	A	D	A	D	A	D	A	D	A	D
Montreal	33	33	14	14	19	24	19	19	60	61	27	32
Ottawa	26	26	27	21	25	20	19	19	40	46	20	24
Toronto	46	46	21	17	40	38	34	33	79	98	29	35
Boston	12	12	7	7	13	12	25	12	31	40	19	26
Halifax	26	26	21	21	33	27	26	26	-	-	27	41
St. John's	19	18	13	13	19	13	20	12	53	39	17	18

* A - Number of arrivals from the location listed at left side of table.

** D - Number of departures to the location listed at left side of table.

e) Considering the major international centre of Boston, the service at Moncton is about equivalent to that available for Saint John and somewhat better than that available at Fredericton. On the otherhand, it is inferior to the Boston service at Charlottetown and Sydney.

f) Considering St. John's, Newfoundland, the service at Moncton is comparable to that at Saint John and Sydney, whereas it is somewhat superior to that available between St. John's and Fredericton or Charlottetown.

3.3 Direct (Non-Stop) Flights

As an enhancement to the basic flight availability discussed in the above section, specific data were extracted regarding the availability of direct (non-stop) flights between various centres. This information is essentially a subset of the overall data included in Table 3.1 and represents a further level of detail relating to the quality of service.

Prior to differentiating those flights which are exclusively direct service with no stops, the number of same aircraft flights available between the various centres noted above was identified. This is the first level of refinement in evaluation of the air service. Although specific summary tables have not been included in this report for the same aircraft flights, it is relevant to make the following general comments about such available service:

a) Half of the flights between Montreal and Moncton involve same aircraft service.

b) In contrast, the service between Fredericton and Montreal is provided exclusively by the same aircraft. However, Fredericton is the most westerly regional centre and is the last stop westbound and the first stop eastbound.

c) Similarly, for service between Saint John and Montreal, all but one arrival is provided by the same aircraft and two-thirds of the departures are provided by the same aircraft.

d) The service between Charlottetown and Montreal is essentially all provided by the same aircraft.

e) For service to Ottawa, the situation deteriorates substantially. For Moncton, only about one-quarter of the arrivals and two-thirds of the departures involve service by the same aircraft. An even smaller portion of the flights between Fredericton and Saint John involve service with the same aircraft. The same situation occurs for service out of Charlottetown and Sydney to Ottawa.

f) Considering Toronto, less than 50 percent of the arrivals at Moncton involve same aircraft service, with only about one-third of the departures being provided in the same aircraft. Saint John has about the same level of service with respect to same aircraft utilization.

As noted in the introductory paragraph to this section, a critical element of air service is that associated with direct (non-stop) activity. This type of service is obviously the most desirable for the business community and generally represents the least overall travel time. The information extracted from the existing airline schedules relating to direct (non-stop) service at Moncton, as well as a number of other Maritime centres is summarized in Table 3.3. The primary observations drawn from the information summarized in this table are:

a) Nearly half (14) of the 33 weekly arrivals and departures between Moncton and Montreal are direct (non-stop) service. The number of direct flights between Montreal and Moncton is comparable to those available at Saint John and Fredericton. On the other hand, Charlottetown and Sydney have no direct service with Montreal.

Table 3.3

TOTAL WEEKLY DIRECT (NON-STOP) AIR SERVICE
FLIGHTS BETWEEN MAJOR CENTRES

	Moncton		Fredericton		Saint John		Charlottetown		Halifax		Sydney	
	A*	D**	A	D	A	D	A	D	A	D	A	D
Montreal	14	14	14	14	13	12	0	0	47	49	0	0
Ottawa	0	0	0	0	0	0	7	7	26	26	0	0
Toronto	7	11	7	12	24	9	8	9	78	84	3	3
Boston	0	0	0	0	0	7	0	0	12	7	0	0
Halifax	26	26	12	19	33	27	26	26	0	0	27	41
St. John's	0	0	0	0	0	0	0	0	53	34	0	0

* A - Number of arrivals from the location listed at left side of table.

** D - Number of departures to the location listed at left side of table.

b) Considering Ottawa, the only Maritime city noted in Table 3.3, other than Halifax, which has direct service is Charlottetown with 1 arrival and 1 departure daily.

c) Considering Toronto, the direct (non-stop) service is comparable for Moncton, Fredericton, Saint John and Charlottetown. Generally, there is 1 arrival and 1 departure opportunity daily between Toronto and each of these centres.

d) Boston has direct service only from Halifax and Saint John (departure only).

e) Considering Halifax, Moncton's direct service opportunities are comparable to that for Sydney and Charlottetown. The Moncton departures to Halifax are also about equal to that available for Saint John but Saint John has an extra arrival per day from Halifax. Fredericton clearly has the poorest service to/from Halifax.

f) With the exception of Halifax, there is no direct service between Newfoundland and any of the Maritime centres noted in Table 3.3

The data summarized in Tables 3.2 and 3.3 were also consolidated and plotted graphically to provide a clearer indication of the relationship between total flights and direct flights at various centres. Flights associated with each major centre are described by two figures, one figure provides a summary of the arrivals at several Maritime locations, while the other figure provides an overview of the departures from the same centres. The Maritime centres used in this comparison were Moncton, Fredericton, Saint John, Charlottetown, Halifax and Sydney. The major centres to which service to and from each of these Maritime points was compared included Halifax, St. John's, Montreal, Ottawa, Toronto and Boston. This series of charts are included in the report as Figures 3.3 to 3.14 inclusive.

Figures 3.3 and 3.4 summarize the number of flights between Halifax and the six Maritime centres noted. It is evident from reviewing these figures that generally the number of flights between Halifax and the six centres are similar. The primary exception regarding the arrivals pattern at Halifax (see Figure 3.3) is that Fredericton has a fewer number of total flights arriving at Halifax. Also, Saint John has a somewhat higher number of flights, all of which are direct flights to Halifax.

It might also be noted (see Figure 3.3) that the Fredericton service to Halifax not only has fewer flights, but only about one-half of the flights are direct. The remainder involve stopovers at an intermediate point.

The departures from Halifax (see Figure 3.4) also indicate that service to Moncton is about the same as at Saint John and Charlottetown, with all flights direct. Fredericton has slightly fewer flights while Sydney has substantially more.

Service between St. John's, Newfoundland and the six Maritime points shown in Figures 3.5 and 3.6 clearly indicates that Halifax is the major point of connection between the Maritimes and St. John's. Generally, for both arrivals and departures the number of flights between Halifax and St. John's is more than double than those between St. John's and the other five Maritime locations.

Figures 3.5 and 3.6 clearly indicate that Halifax is the only city with direct service to St. John's. In fact, for the 5 other locations shown in the figures, including Moncton, all service to St. John's involves stopovers in at least one point, which is typically Halifax.

One of the major westbound points of travel is Montreal. The weekly arrival and departure flights between the six Maritime centres and Montreal are illustrated in Figures 3.7 and 3.8. Again, the service between Halifax and Montreal clearly stands out as being superior to that

FIGURE 3.3

HALIFAX ARRIVALS FROM MARITIMES POINTS

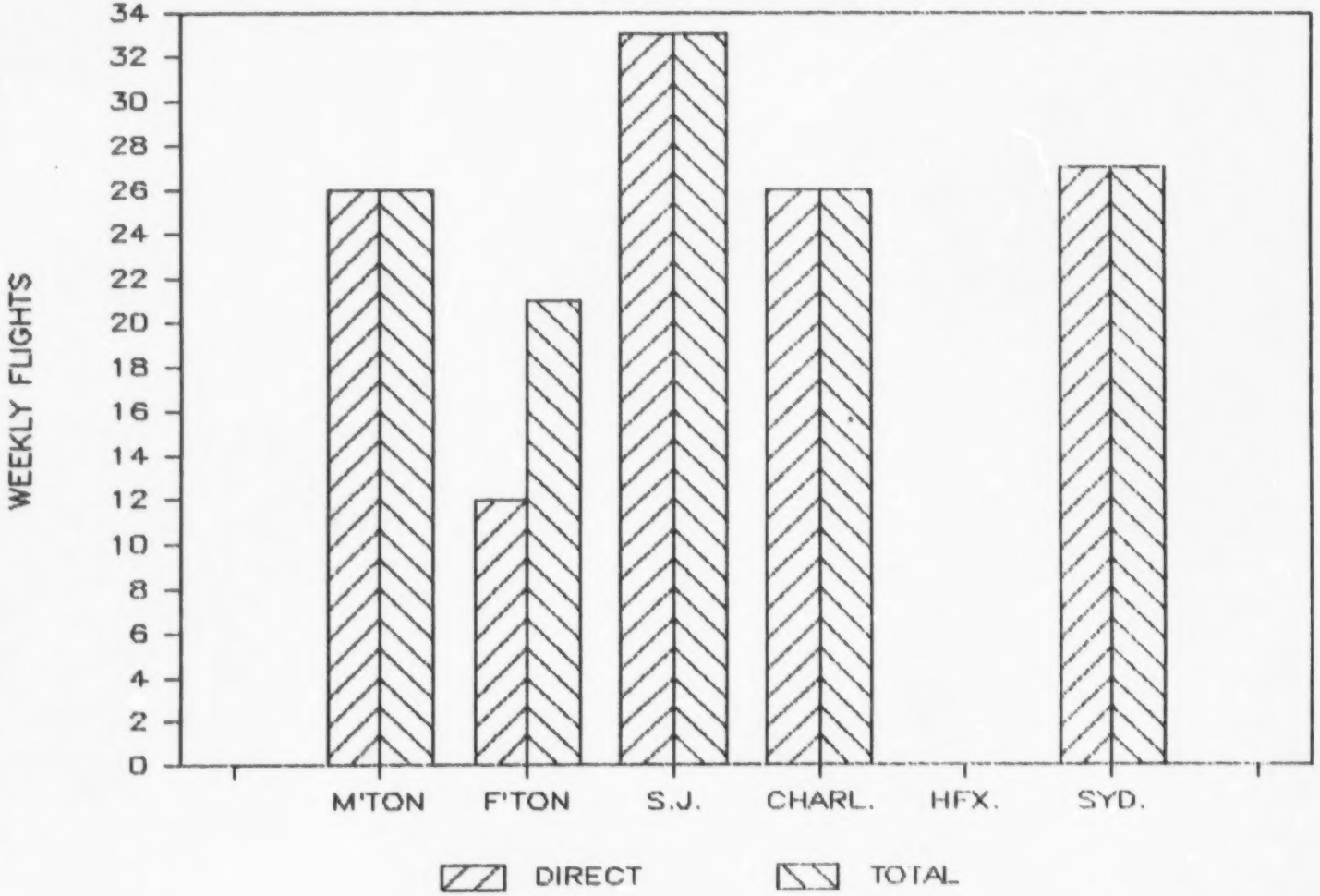


FIGURE 3.4

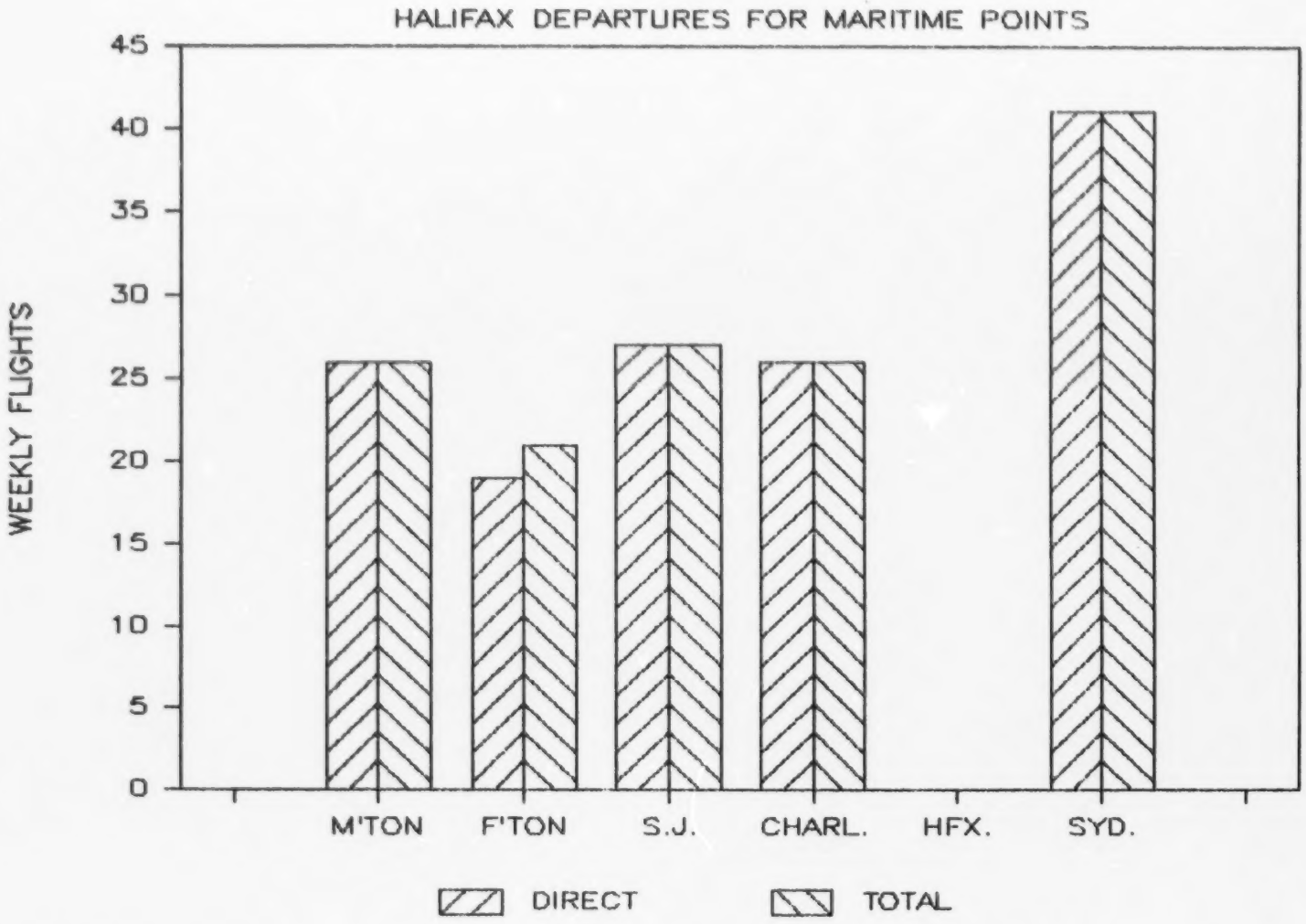

HALIFAX DEPARTURES FOR MARITIME POINTS
WEEKLY FLIGHTS
45
40
35
30
25
20
15
10
5
0
M'TON
F'TON
S.J.
CHARL.
HFX.
SYD.
DIRECT
TOTAL

FIGURE 3.5

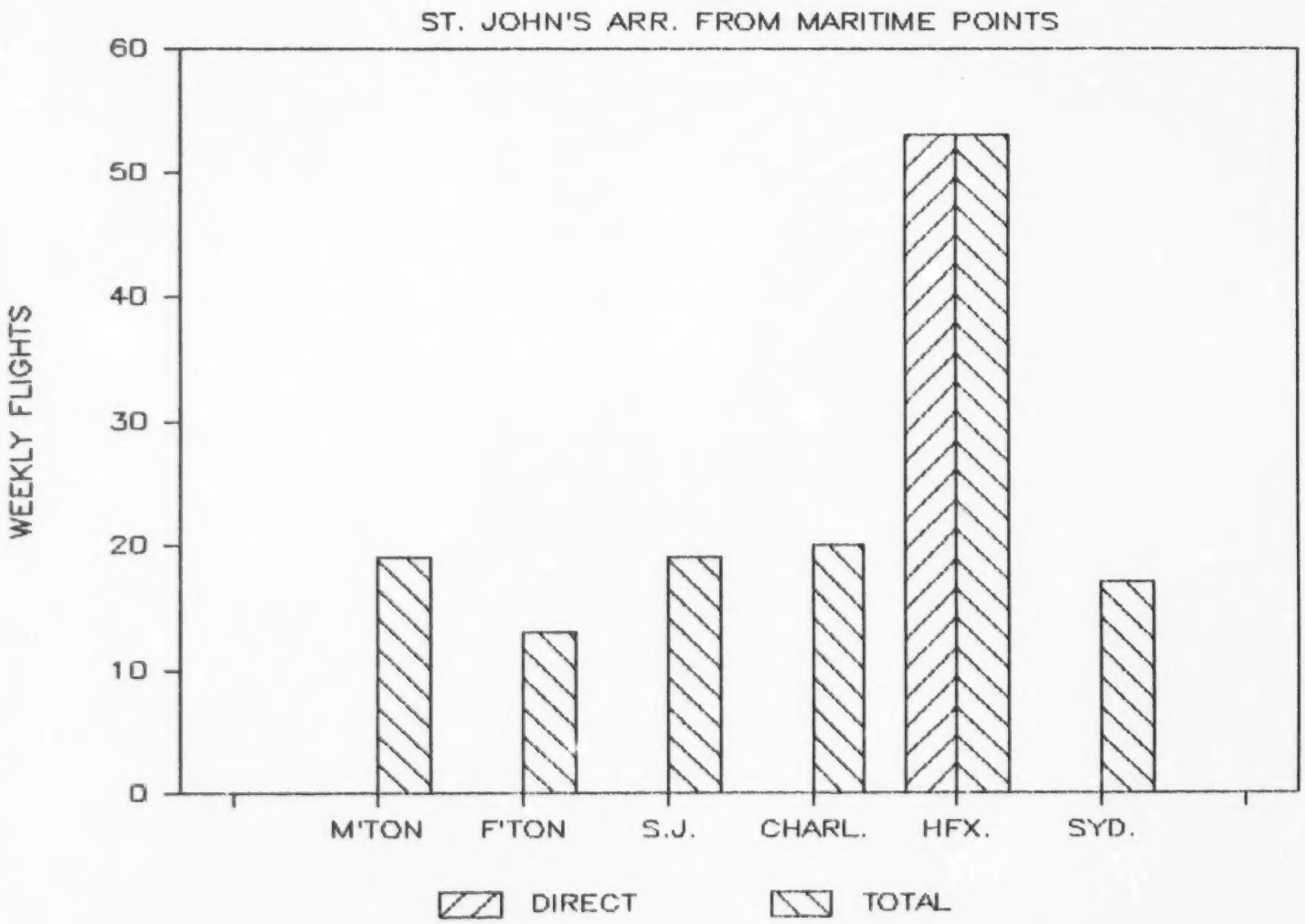

ST. JOHN'S ARR. FROM MARITIME POINTS
WEEKLY FLIGHTS
60
50
40
30
20
10
0
M'TON
F'TON
S.J.
CHARL.
HFX.
SYD.
DIRECT
TOTAL

FIGURE 3.6

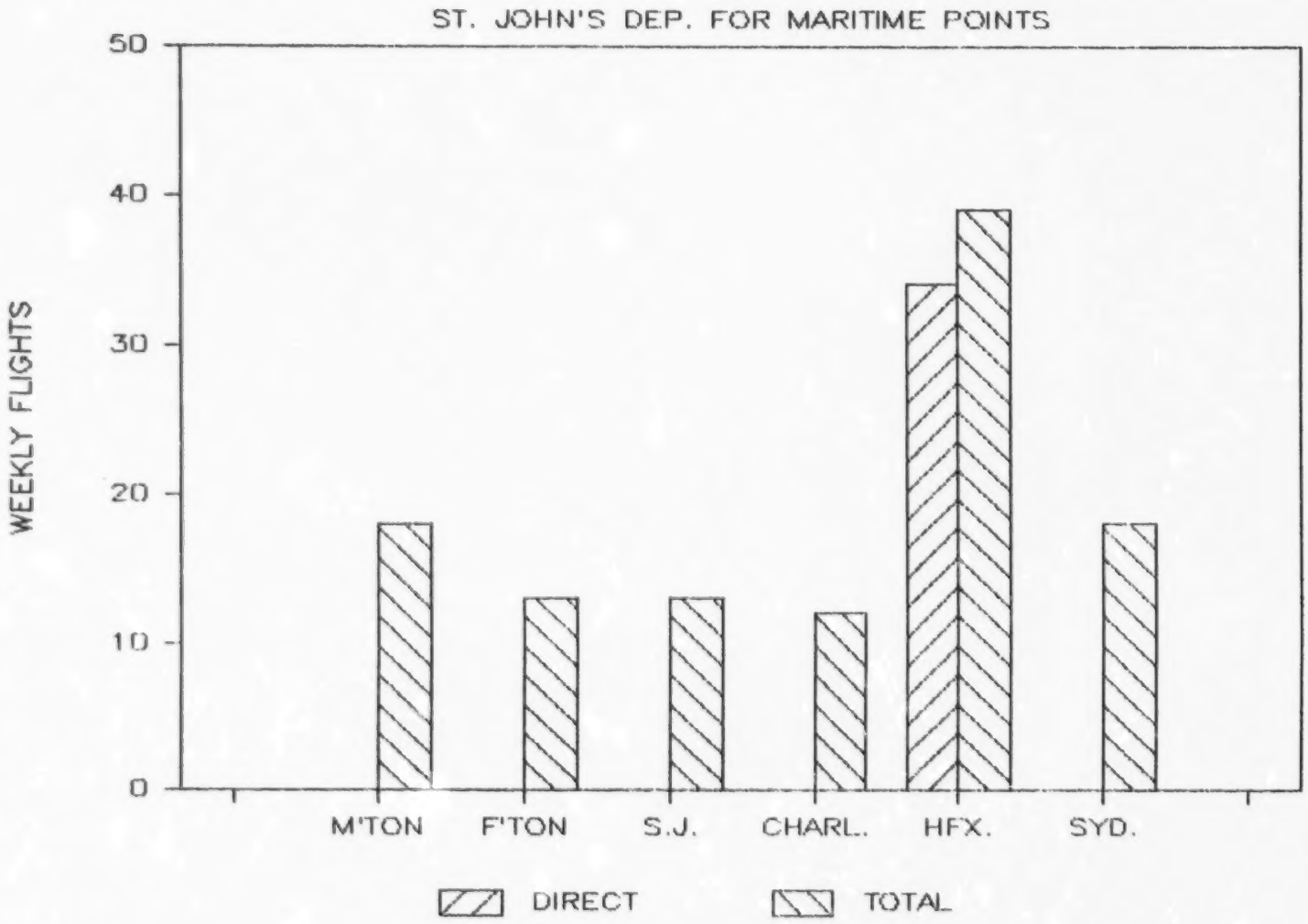

ST. JOHN'S DEP. FOR MARITIME POINTS
WEEKLY FLIGHTS
50
40
30
20
10
0
M'TON
F'TON
S.J.
CHARL.
HFX.
SYD.
DIRECT
TOTAL

FIGURE 3.7

MONTREAL ARRIVALS FROM MARITIME POINTS

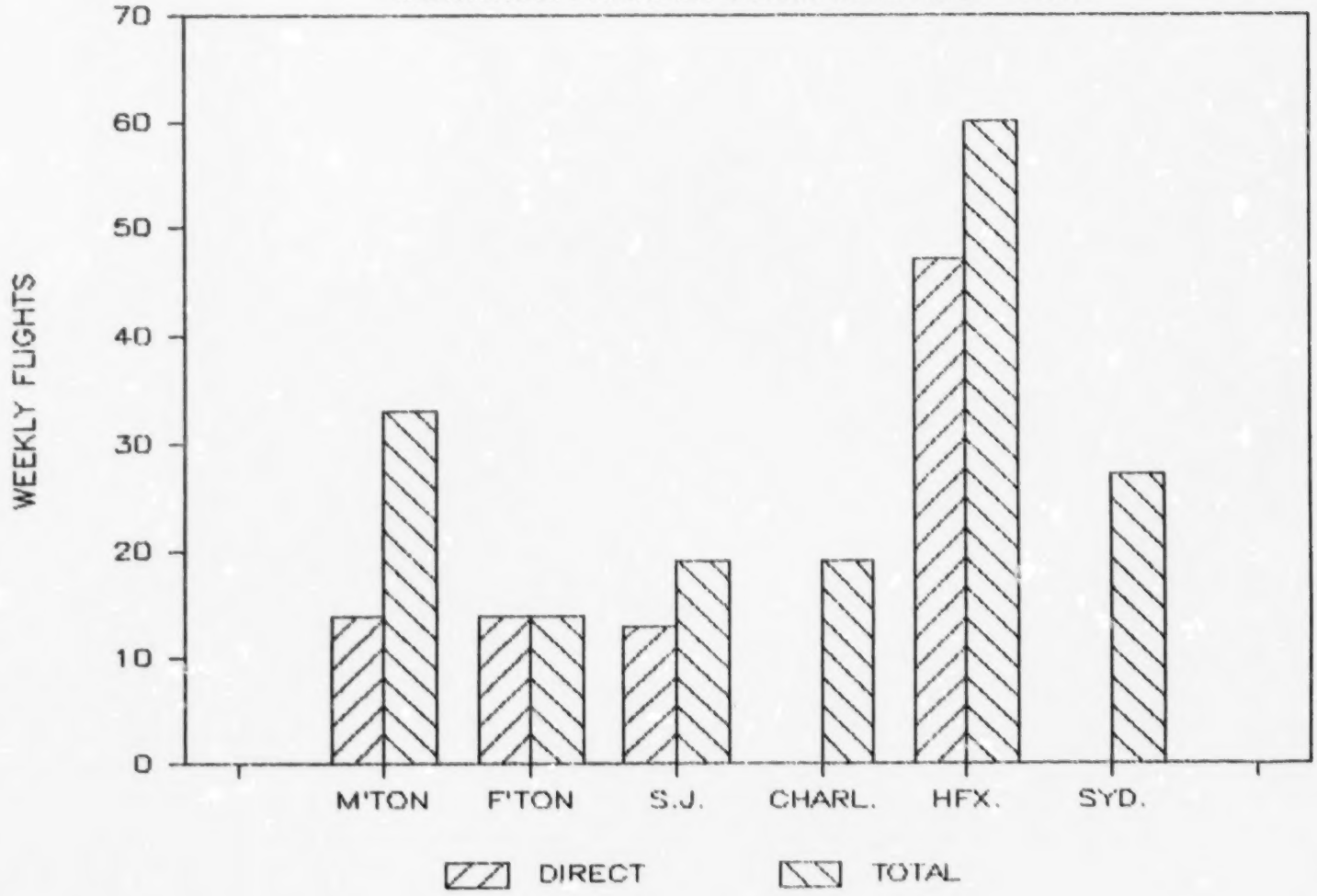
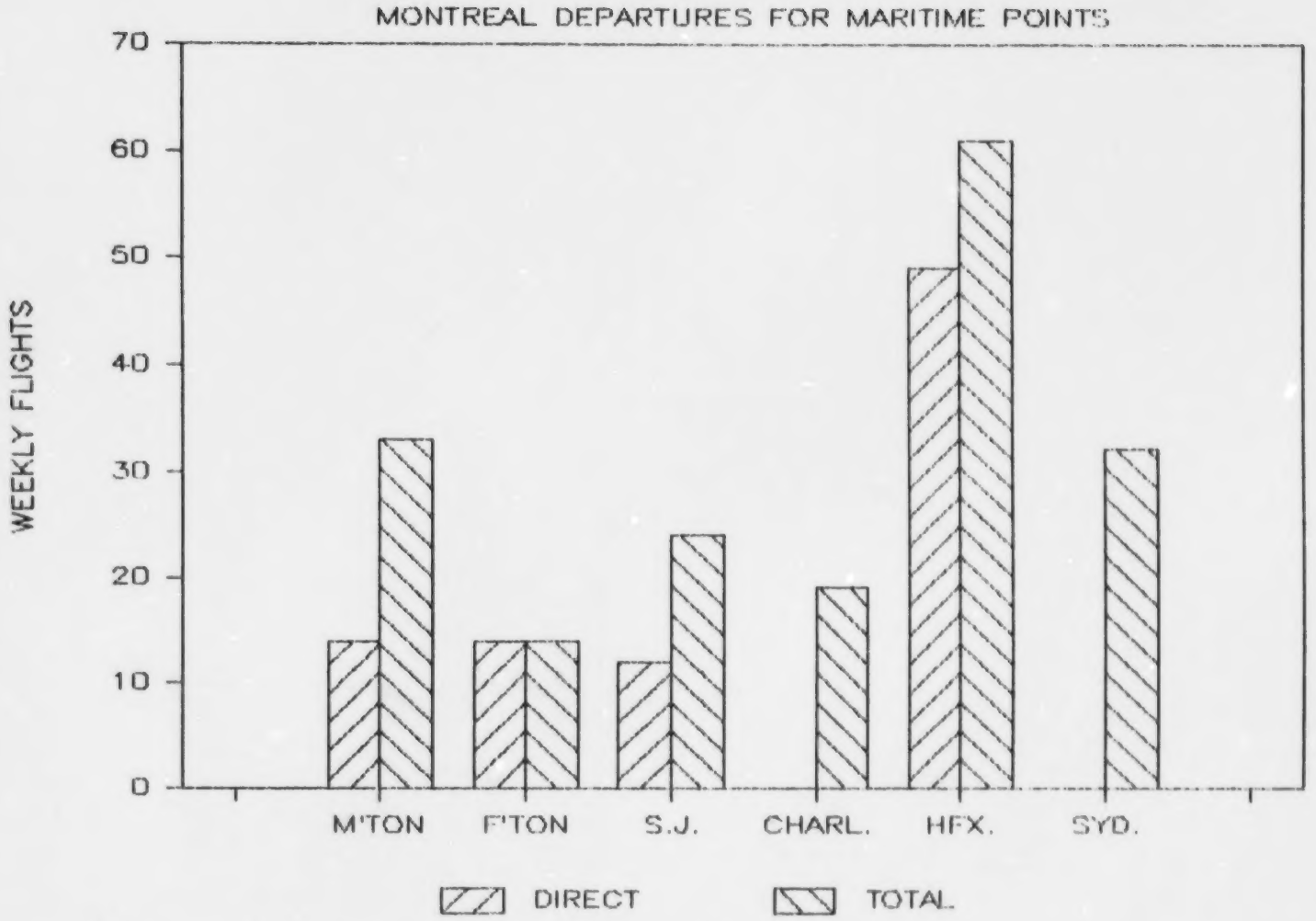


FIGURE 3.8


MONTREAL DEPARTURES FOR MARITIME POINTS
WEEKLY FLIGHTS
70
60
50
40
30
20
10
0
M'TON
F'TON
S.J.
CHARL.
HFX.
SYD.
DIRECT
TOTAL

from any of the other five Maritime locations. Typically, the service out of Halifax provides approximately 3 to 4 times as many weekly flights as is available at the other Maritime locations.

Considering the flight arrivals at Montreal, Moncton has about twice as many flight arrivals as Fredericton and Saint John. This results, however, primarily from the fact that most of the service at Saint John and Fredericton is direct service with no stop required. However, at Moncton provision of Montreal service is through the mechanism of a split between direct flights and those that involve a stop-over at Saint John. For those flights which are shared with Saint John, only approximately half of the seats are available for service at Moncton. Consequently, the apparent advantage of service to Moncton is not as great as Figure 3.7 might indicate. On an available seat basis for arrivals from Montreal at Moncton, Saint John and Fredericton, the values are 2 129, 1 505 and 1 330 respectively.

The service between Ottawa and the six Maritime centres is illustrated in Figures 3.9 and 3.10. Again, the Halifax service is clearly superior to those at any of the other five Maritime centers. The Charlottetown service is significantly inferior to those available at Moncton, Fredericton, Saint John and Sydney. The arrival flights at Moncton from Ottawa are comparable to those at Saint John and Fredericton, whereas the departures from Moncton to Ottawa are somewhat higher from Moncton than at Fredericton and Saint John.

It is also important to note that at four of the six Maritime centres noted in Figures 3.9 and 3.10, the service to and from Ottawa involves stop-overs or connections with other flights.

Figures 3.11 and 3.12 illustrate the number of flights between Toronto and the above noted Maritime centres. Generally, Moncton, Saint John and Sydney have comparable arrival and departure flight numbers with Toronto.

FIGURE 3.9

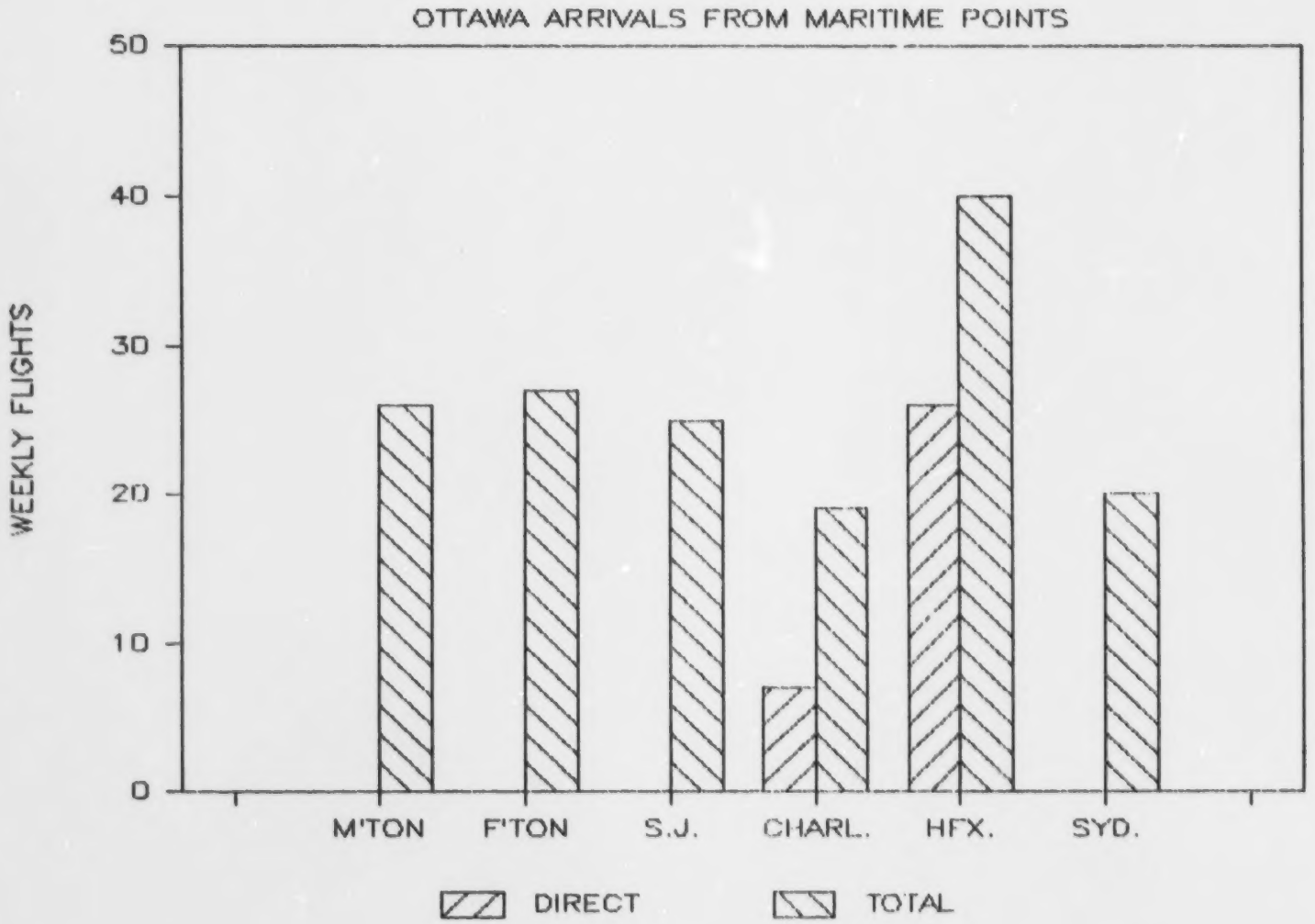

OTTAWA ARRIVALS FROM MARITIME POINTS
WEEKLY FLIGHTS
50
40
30
20
10
0
M'TON
F'TON
S.J.
CHARL.
HFX.
SYD.
DIRECT
TOTAL

FIGURE 3.10

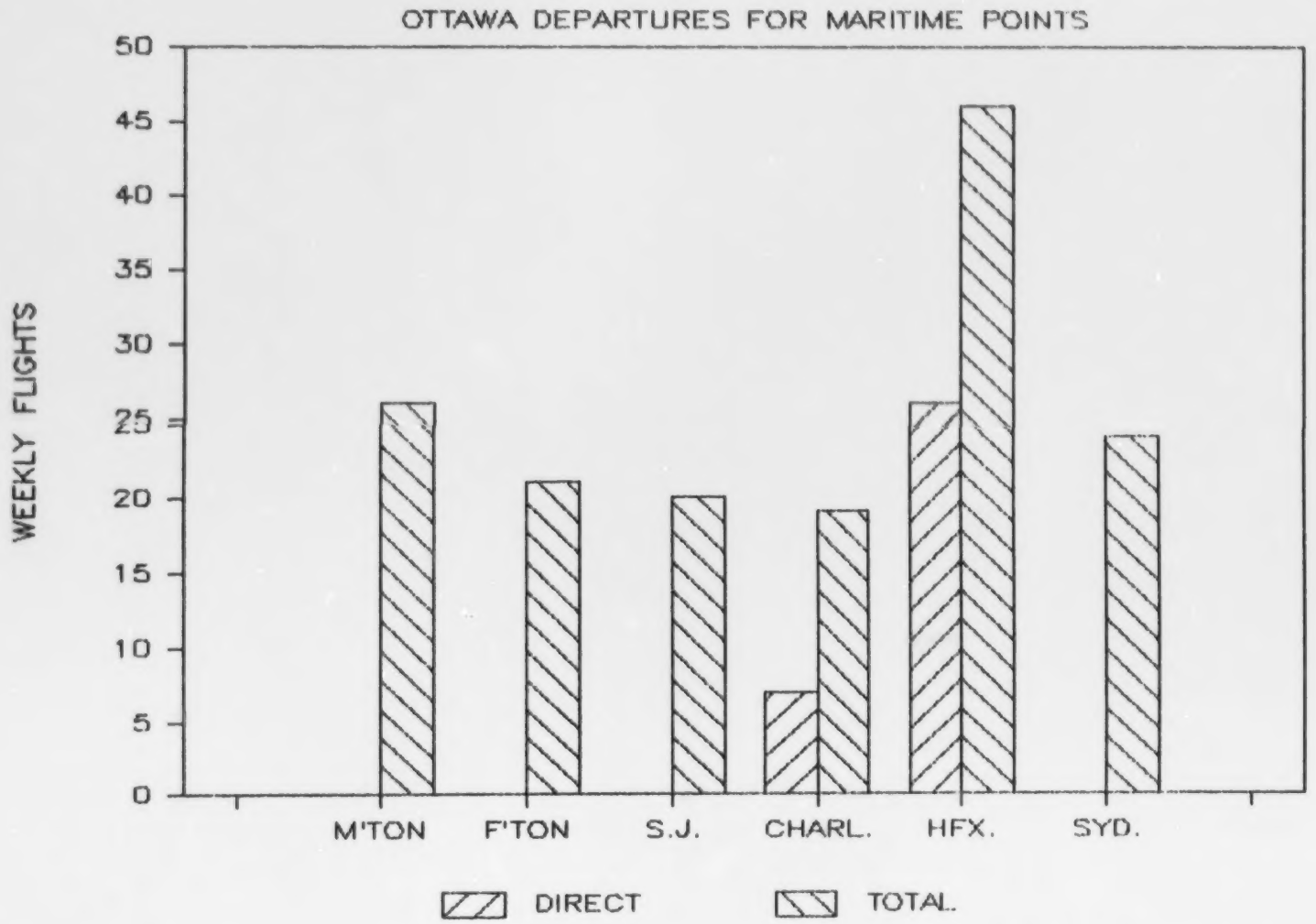

OTTAWA DEPARTURES FOR MARITIME POINTS
WEEKLY FLIGHTS
50
45
40
35
30
25
20
15
10
5
0
M'TON
F'TON
S.J.
CHARL.
HFX.
SYD.
DIRECT
TOTAL

FIGURE 3.11

TORONTO ARRIVALS FROM MARITIME POINTS

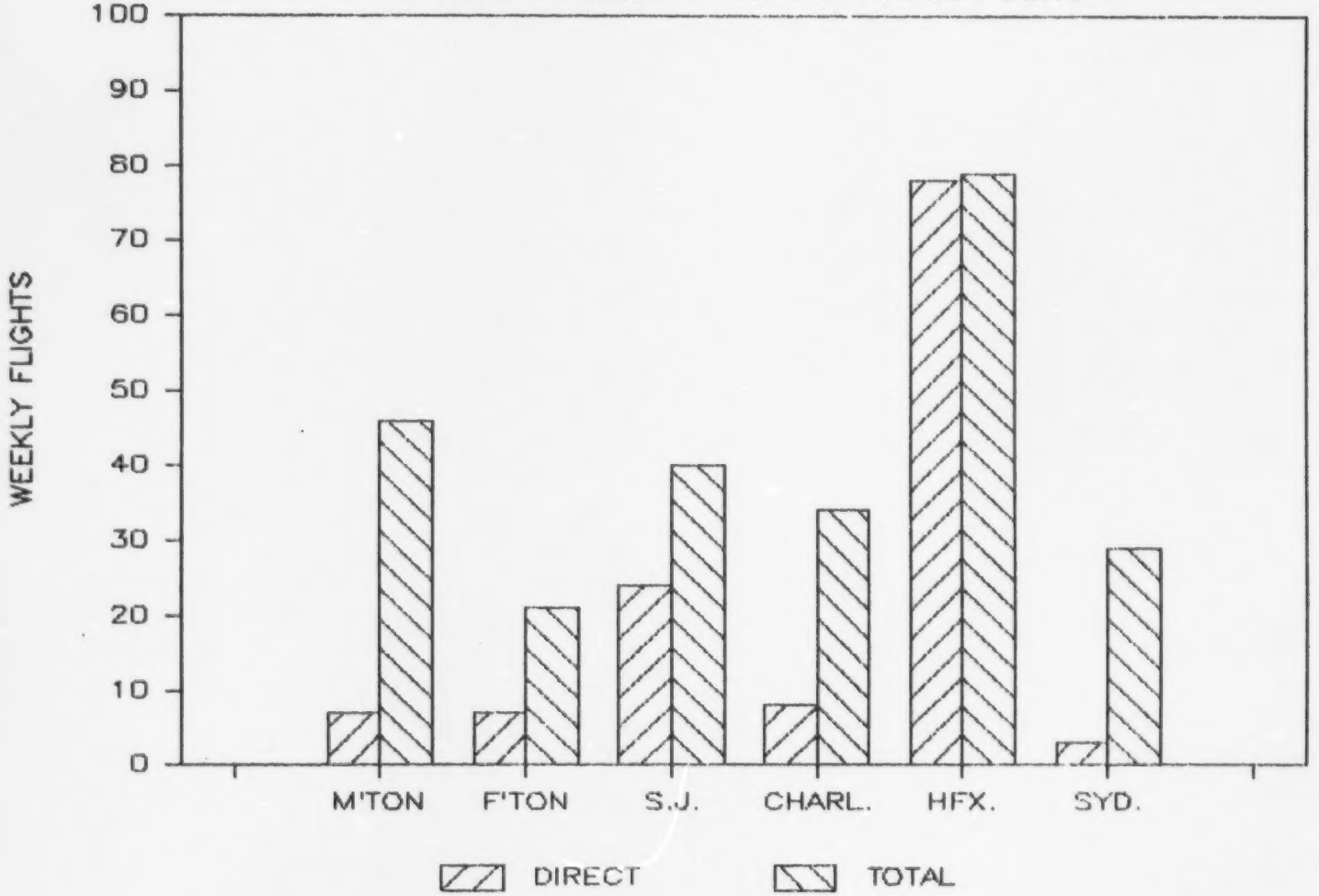
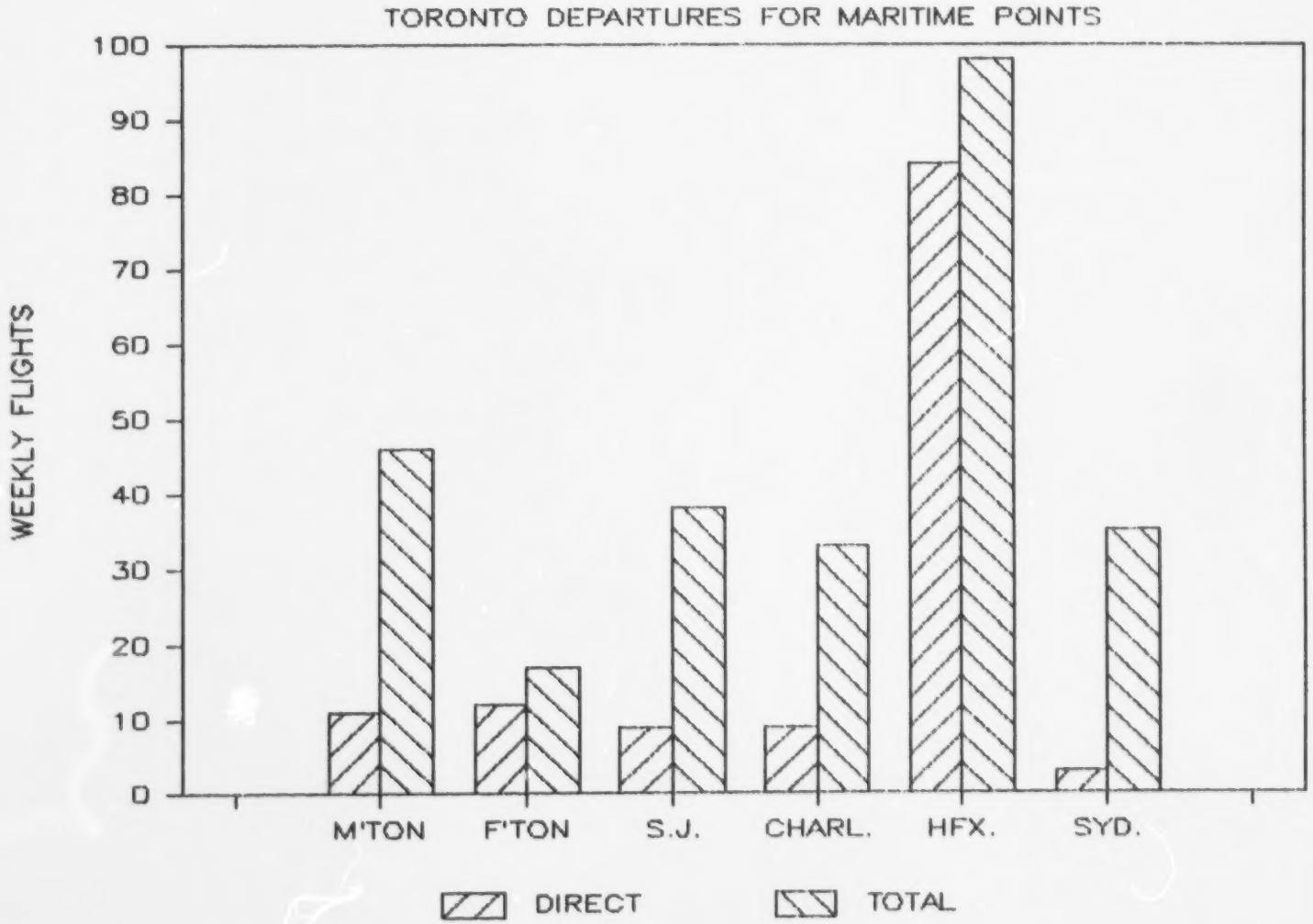


FIGURE 3.12


TORONTO DEPARTURES FOR MARITIME POINTS
WEEKLY FLIGHTS
100
90
80
70
60
50
40
30
20
10
0
M'TON
F'TON
S.J.
CHARL.
HFX.
SYD.
DIRECT
TOTAL

It is also evident from these two figures that the service to all of the Maritime centres other than Halifax involves only a small minority of flights which have direct (non-stop) service. The vast majority of connections involve stop-overs or flight changes.

Figures 3.13 and 3.14 provide a similar overview of available flights between the Maritime centres and Boston. Again, with the exception of the service at Halifax, there is limited opportunity for service between the Maritimes and Boston. Generally speaking, only about 12 flights per week are available on this corridor. As well, it is clear that only Halifax and Saint John have any direct service to and from Boston.

3.4 Summary of Flight Routing Patterns

In addition to the above evaluation of the direct and indirect flights, the air schedules to Moncton were examined to identify the extent to which service between Moncton and various other centers necessitates stop-overs. This was achieved by reviewing the number of legs in the route structure necessary to accommodate trips between Moncton and various other locations. The information extracted from the schedule is illustrated in Table 3.4.

This table illustrates (on a weekly basis) the number of legs associated with the route structure for all flights arriving in Moncton from the 21 potential origins. Similarly, Table 3.4 illustrates the number of legs in the route structure for outbound flights between Moncton and the same set of 21 potential destinations.

It is evident that for flights arriving in Moncton, only five of the twenty-one locations involve direct (one-leg) non-stop service. The same applies for flights departing from Moncton. Eleven of the centers involve two legs on the inbound route structure to Moncton with three of the locations involving three-leg route structures for inbound trips. Similarly, outbound trips from Moncton involve two-leg route structures

FIGURE 3.13

MARITIME ARRIVALS FROM BOSTON

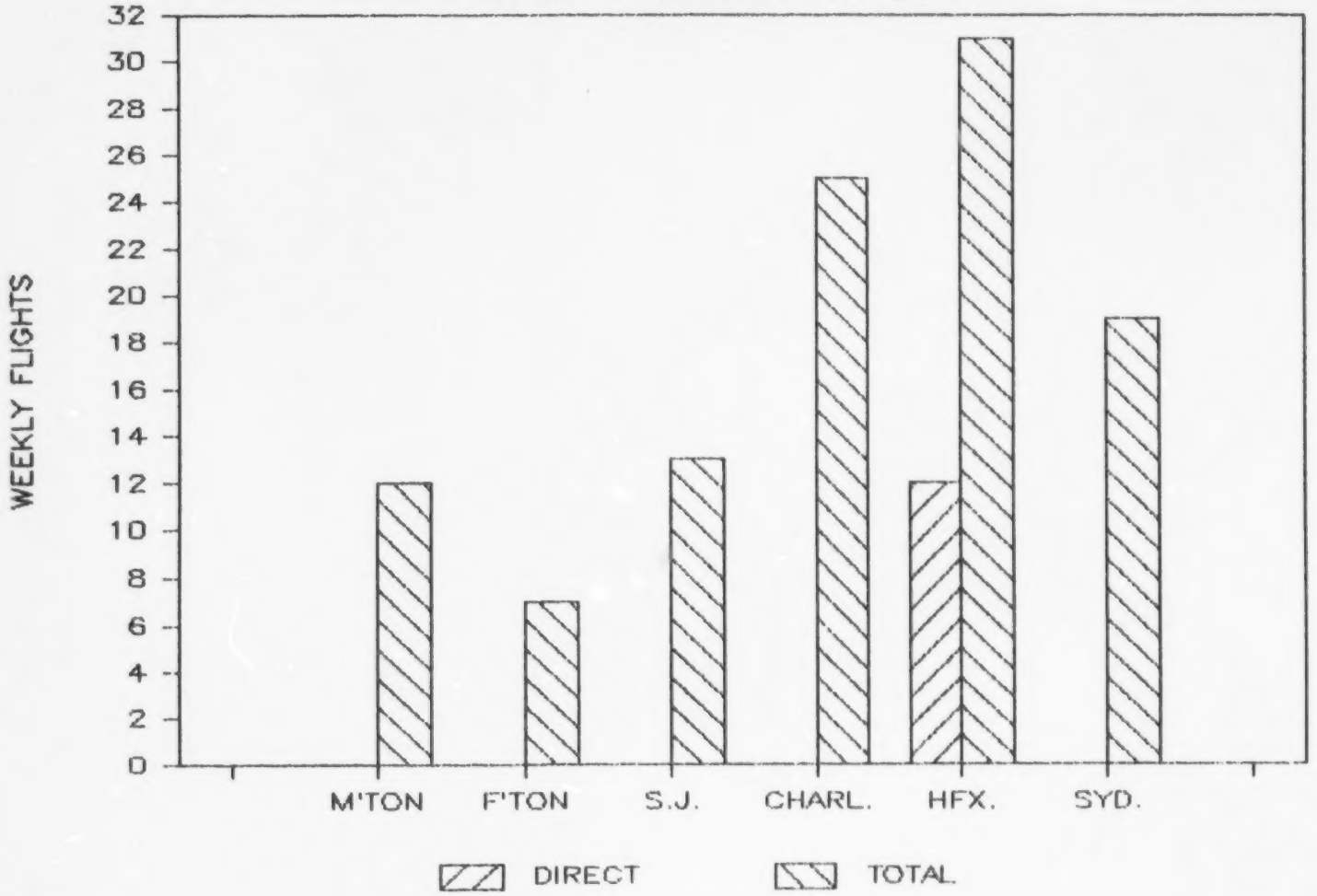


FIGURE 3.14

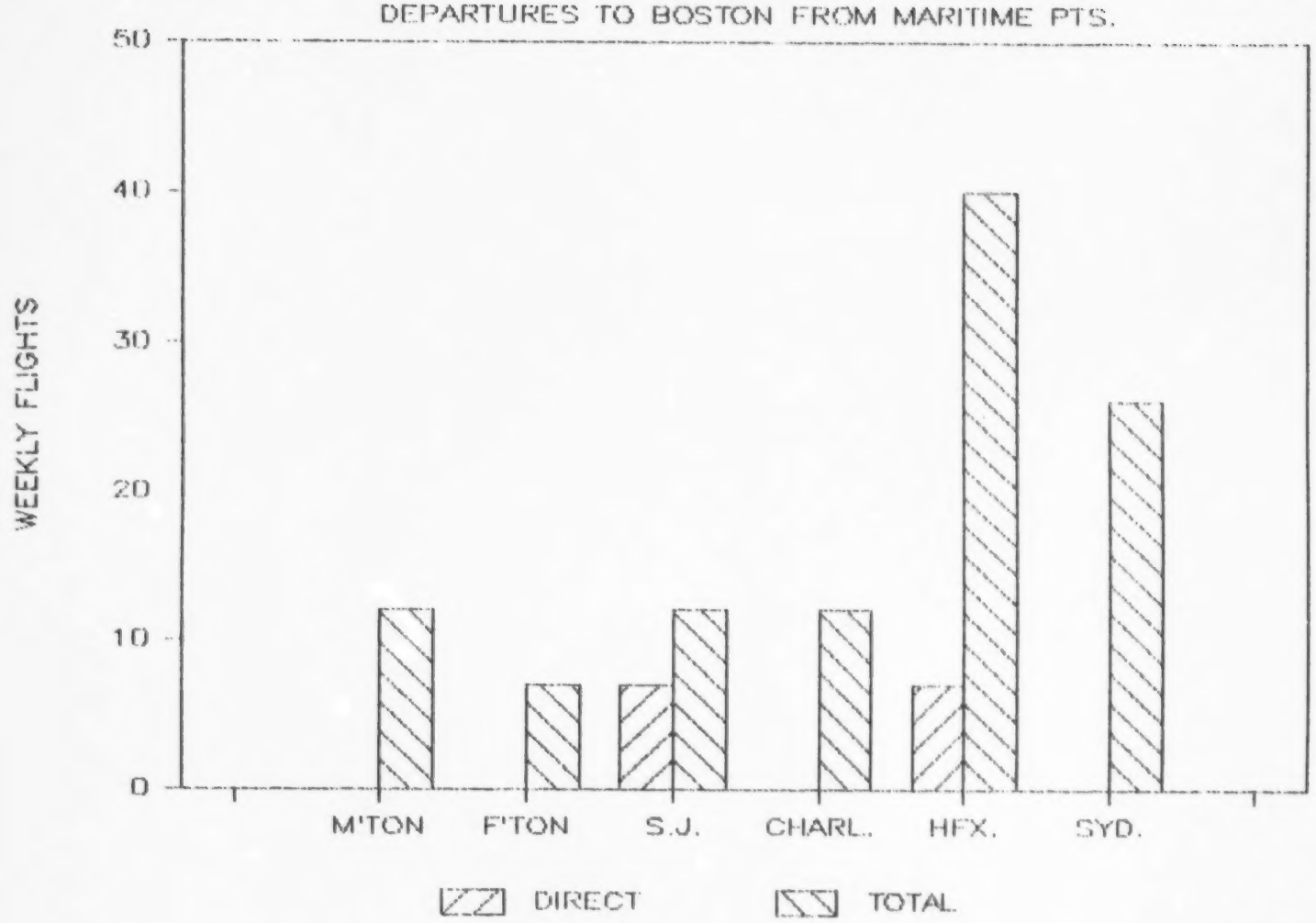

DEPARTURES TO BOSTON FROM MARITIME PTS.
WEEKLY FLIGHTS
50
40
30
20
10
0
M'TON
F'TON
S.J.
CHARL.
HFX.
SYD.
DIRECT
TOTAL

Table 3.4

NUMBER OF LEGS IN THE WEEKLY TOTAL AIR SERVICE
ROUTE STRUCTURE SERVING MONCTON

Location		Number of Flights With Given # of Legs									
		Arrivals					Departures				
Name	Code	One-Leg	Two-Leg	Three-Leg	Four-Leg	Total	One-Leg	Two-Leg	Three-Leg	Four-Leg	Total
1. Chatham	YCH					0					0
2. Charlo	YCL					0					0
3. Moncton	YQM					0					0
4. Saint John	YSJ	7				7	10				10
5. Fredericton	YFC	2				2	2				2
6. Halifax	YHZ	26				26	26				26
7. Sydney	YQY		17			17		12			12
8. Yarmouth	YQI			5		5		7			7
9. Charlottetown	YYG		17			17		19			19
10. St. John's	YYT		19			19		17	1		18
11. Gander	YQX			19		19		5	12		17
12. Deer Lake	YDF			11		11		6	6		12
13. Stephenville	YJT			6		6		2	3		5
14. Goose Bay	YYR		1		5	6			2		2
15. Churchill Falls	YUM					0					0
16. Wabush	YWK					0					0
17. Montreal	YUL	14	19			33	14	19			33
18. Magdalen Island	YGR		5			5		7			7
19. St. Pierre	SPM		7			7		7			7
20. Ottawa	YOW		26			26		26			26
21. Toronto	YYZ	7	39			46	11	28	7		46
22. Boston	BOS		7		5	12		7	5		12

for the service to thirteen of the twenty-one centers illustrated in Table 3.4. As well, seven of the locations involve three leg-route structures to achieve outbound service from Moncton.

As an enhancement to this general route structure review, the information for a typical weekday was also summarized. These data are illustrated in Table 3.5. Figure 3.15 is a graphical illustration of the arrivals data for the ten key locations listed in Table 3.5. Similarly, Figure 3.16 illustrates the route structure (number of legs) for flights departing Moncton on a typical weekday to the same ten key destinations.

The following observations can be drawn from examining the data in Figure 3.15 on typical weekday arrivals in Moncton:

1. It is evident that there is no service on weekdays between Moncton and Fredericton. It is also evident that the one flight from Saint John is routed directly to Moncton.

2. There are also four direct flights from Halifax daily. As well, there are two daily direct arrivals from Montreal and one from Toronto. As is evident, the majority of flights involve route structures with two legs. As well, three cities involve route structures with arrivals in Moncton involving three legs. One city (Goose Bay) involves a four-leg route structure to Moncton.

Generally, similar characteristics exist for the flights departing Moncton to these destinations. These characteristics are illustrated in Figure 3.16.

3.5 Scheduling Details

3.5.1 Introduction

Having discussed the general characteristics of flights in the previous sections, this section provides a more comprehensive evaluation of the

FIGURE 3.15

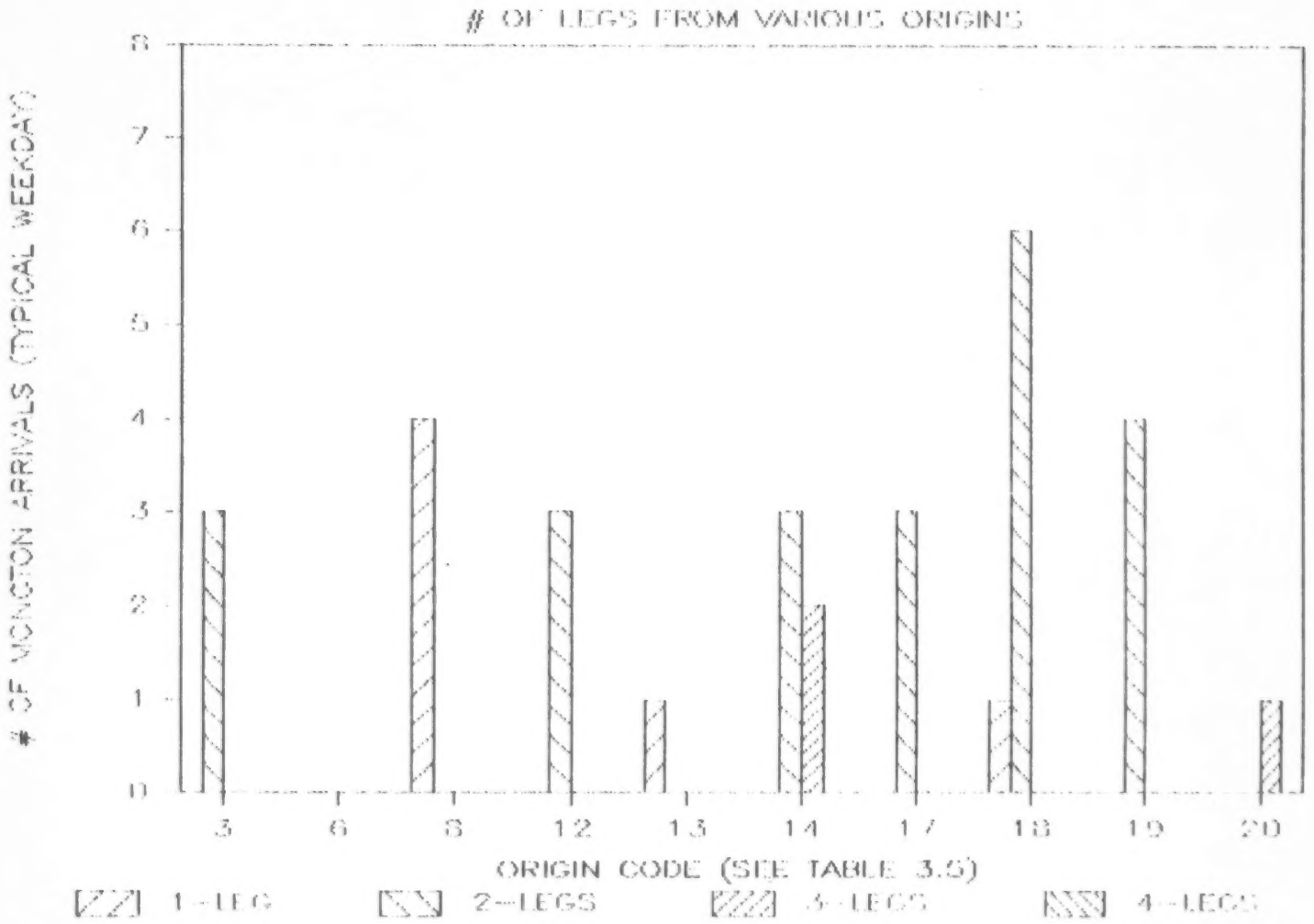

OF LEGS FROM VARIOUS ORIGINS
OF WASHINGTON ARRIVALS (TYPICAL WEEKDAY)
0
1
2
3
4
5
6
7
8
3
6
8
12
13
14
17
18
19
20
ORIGIN CODE (SEE TABLE 3.5)
1-LEG
2-LEGS
3-LEGS
4-LEGS

FIGURE 3.16

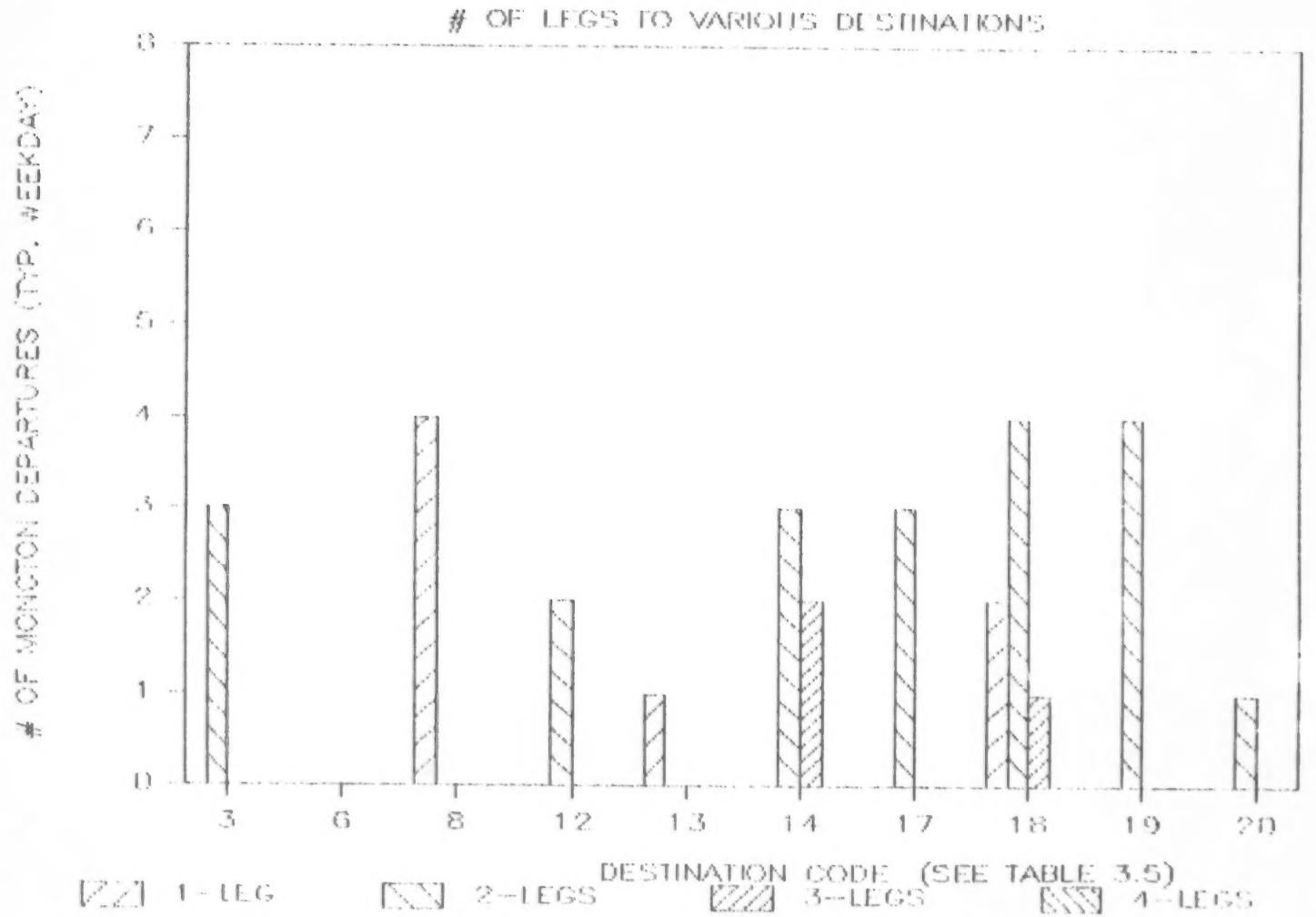

OF LEGS TO VARIOUS DESTINATION'S
OF MONCTON DEPARTURES (TYP. WEEKDAY)
0
1
2
3
4
5
6
7
8
3
6
8
12
13
14
17
18
19
20
DESTINATION CODE (SEE TABLE 3.5)
1-LEG
2-LEGS
3-LEGS
4-LEGS

Table 3.5

NUMBER OF LEGS IN THE TYPICAL WEEKDAY
ROUTE STRUCTURE SERVING MONCTON

Location	Number of Flights With Given # of Legs									
	Arrivals					Departures				
Name	One-Leg	Two-Leg	Three-Leg	Four-Leg	Total	One-Leg	Two-Leg	Three-Leg	Four-Leg	Total
1. Chatham					0					0
2. Charlo					0					0
3. Moncton					0					0
4. Saint John	1				1	1				1
5. Fredericton					0					0
6. Halifax	4				4	4				4
7. Sydney		3			3		2			2
8. Yarmouth		1			1		1			1
9. Charlottetown		3			3		3			3
10. St. John's		3			3		3			3
11. Gander			3		3		1	2		3
12. Deer Lake			2		2		1	1		2
13. Stephenville			1		1			1		1
14. Goose Bay				2	2					0
15. Churchill Falls					0					0
16. Wabush					0					0
17. Montreal	2	3			5	2	3			5
18. Magdalen Islands		1			1		1			1
19. St. Pierre & Miquelon		1			1		1			1
20. Ottawa		4			4		4			4
21. Toronto	1	6			7	2	4	1		7
22. Boston		1		1	2		1	1		2

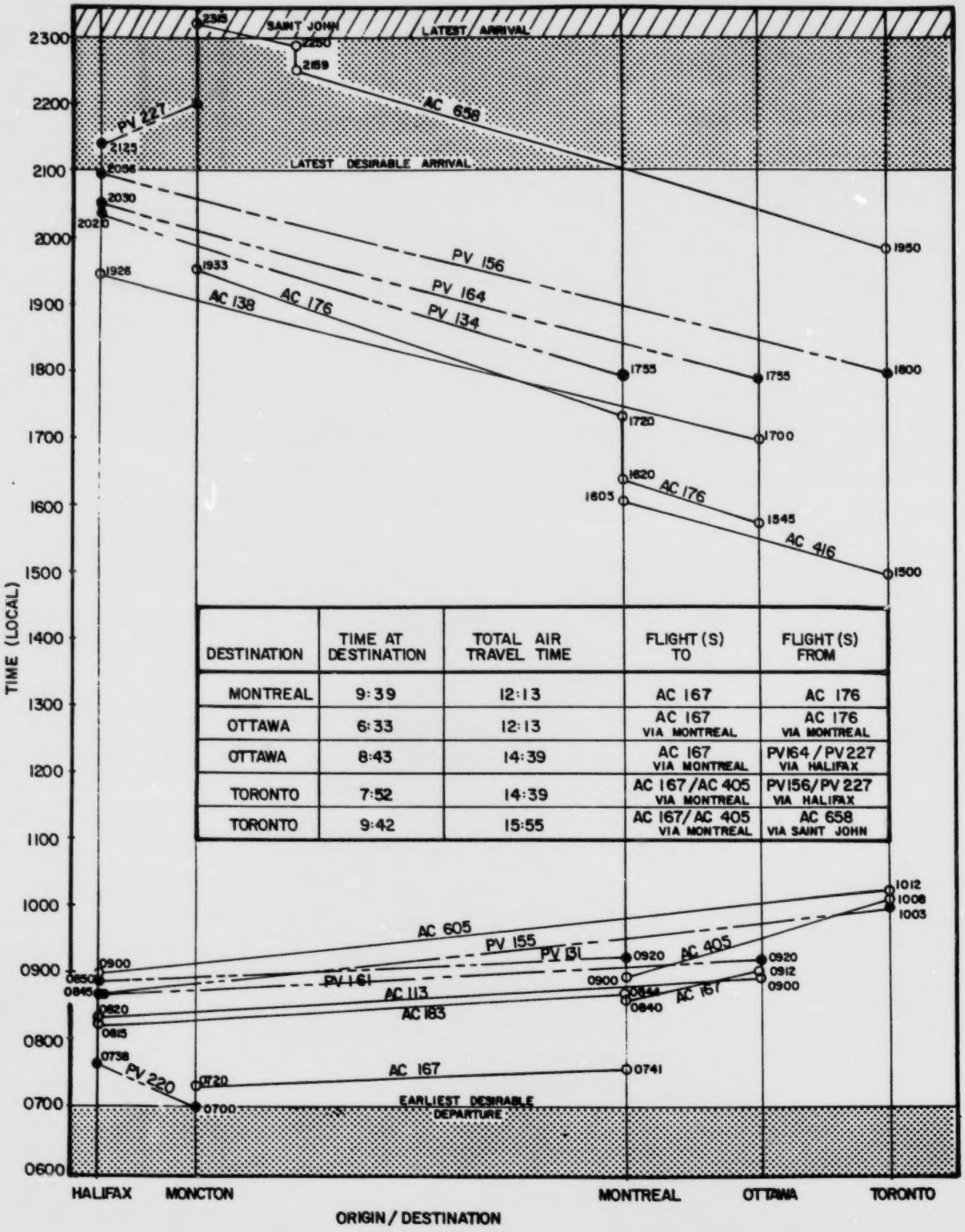
specific details of the timing of existing flights into and out of Moncton. The information summarized in this section was extracted from the time - distance/location plots which in turn were derived from the existing airline schedules.

3.5.2 Analysis of Air Schedules

For convenience, the airline schedules were plotted in 3 stages. One relating to the Air Canada jet service, another to the EPA jet service and another for the EPA Hawker Siddeley HS748 service. From a review of each of these services it was evident that the information is more complex than necessary for an evaluation of the scheduling in and out of Moncton. Consequently, a condensed version of the time - location plots relating specifically to Moncton have been prepared.

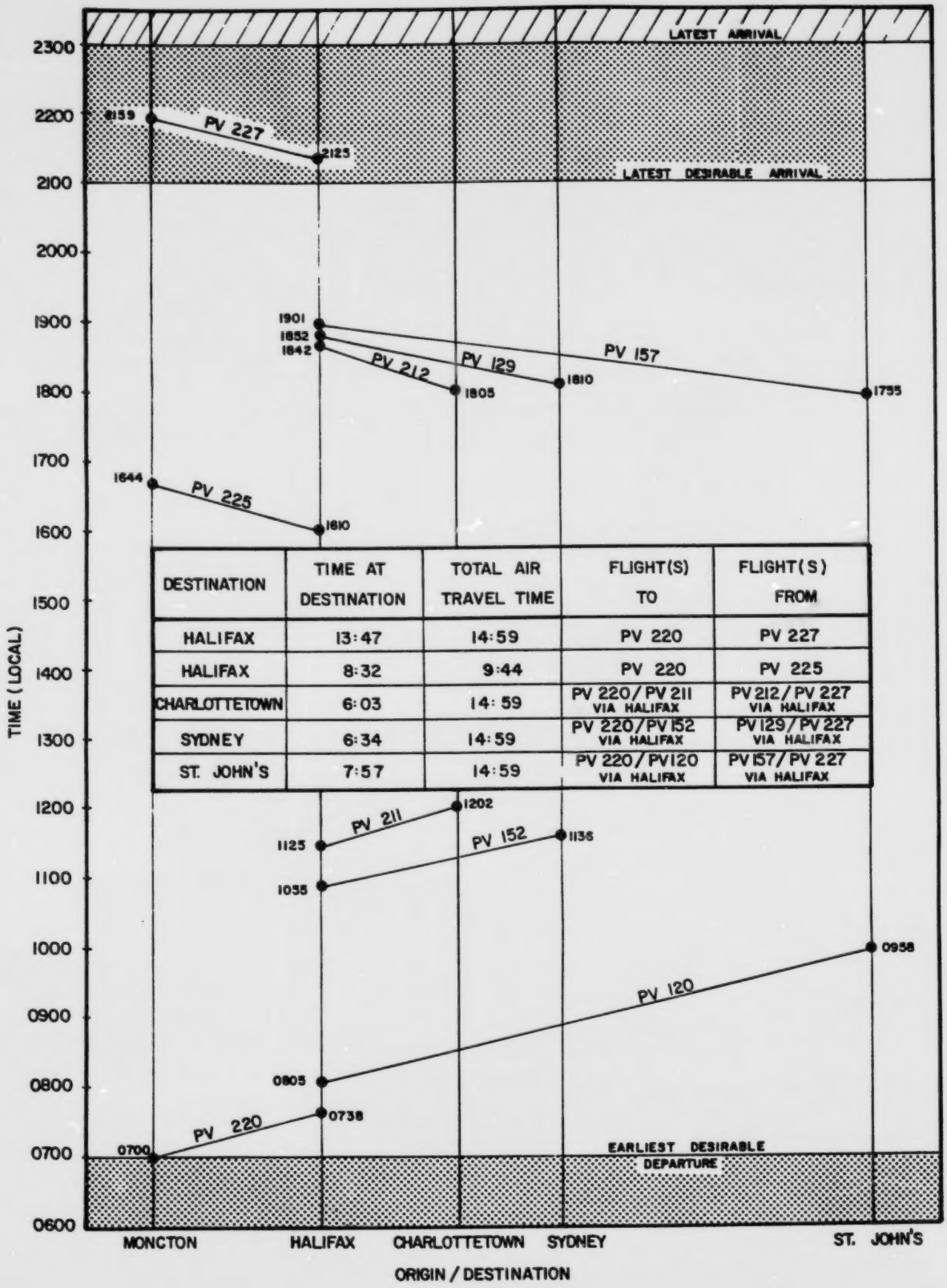
Figures 3.17 to 3.20 illustrate the scheduling opportunities between Moncton and selected extraregional and interregional locations. It should also be pointed out that these plots have been prepared to indicate the potential for same-day return trips from and to Moncton. This is the critical factor associated with business travel since it is desirable to achieve the opportunity to do business at a destination and return at a reasonable time in the same day.

Figures 3.17 and 3.18 illustrate the opportunities for same-day business trips outbound from Moncton to various other locations. Figure 3.17 shows the relationship between Moncton and extraregional cities whereas Figure 3.18 illustrates the same-day return air trip opportunities between Moncton and some of the key locations within the Atlantic Provinces. It should be noted, however, that there may be additional flights between Moncton and the other locations illustrated in these figures which have not been plotted. They have not been included because they are too late in the day to provide an opportunity for same-day return. In such cases, overnight stays would be required and they have, therefore, been excluded because they do not contribute to the topic being illustrated in these figures.



DESTINATION	TIME AT DESTINATION	TOTAL AIR TRAVEL TIME	FLIGHT (S) TO	FLIGHT (S) FROM
MONTREAL	9:39	12:13	AC 167	AC 176
OTTAWA	6:33	12:13	AC 167 VIA MONTREAL	AC 176 VIA MONTREAL
OTTAWA	8:43	14:39	AC 167 VIA MONTREAL	PV164 / PV227 VIA HALIFAX
TORONTO	7:52	14:39	AC 167/AC 405 VIA MONTREAL	PV156/PV 227 VIA HALIFAX
TORONTO	9:42	15:55	AC 167/AC 405 VIA MONTREAL	AC 658 VIA SAINT JOHN

FIGURE 3.17: SAME DAY RETURN OPPORTUNITIES FROM MONCTON TO (MONTREAL - OTTAWA - TORONTO)



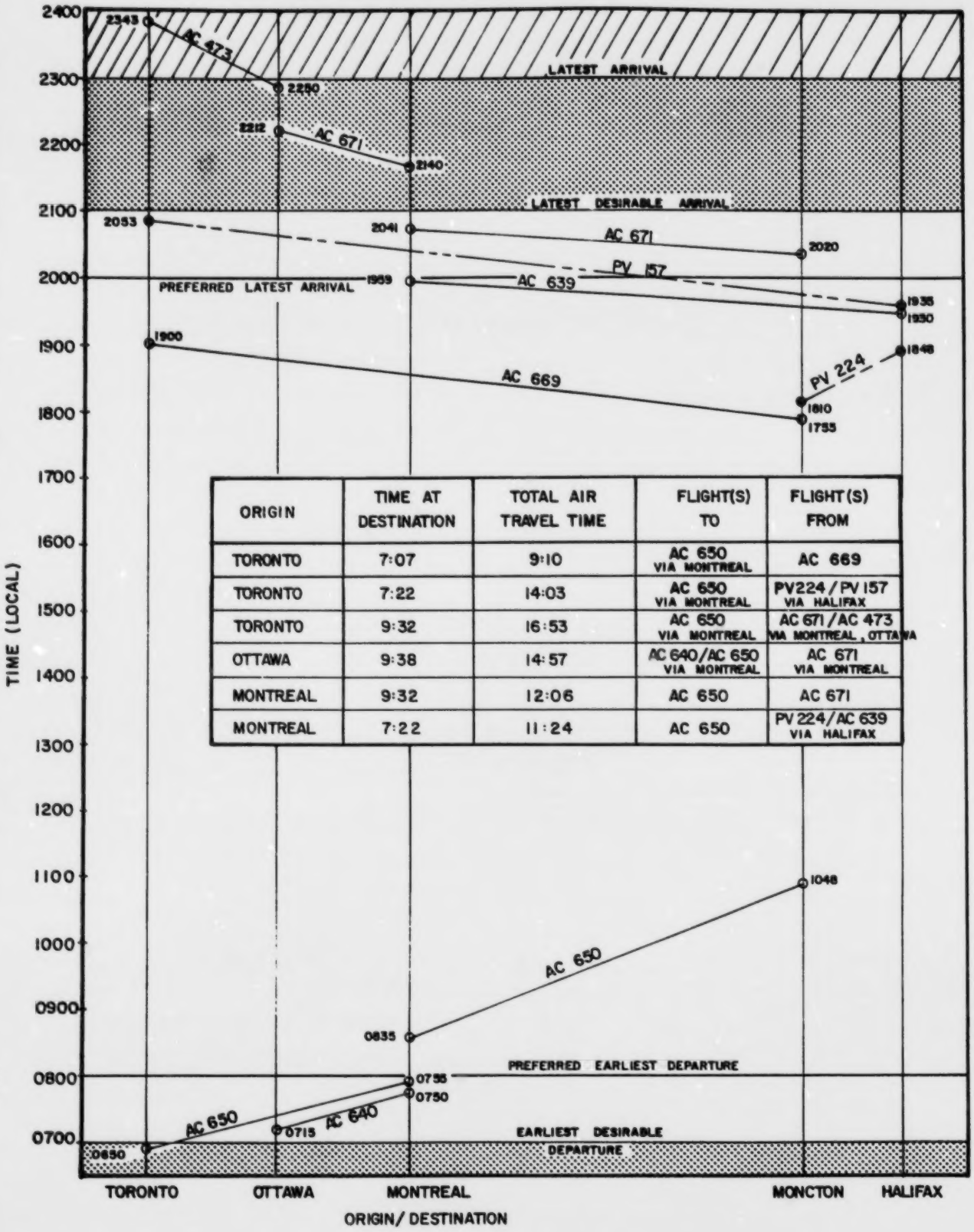
DESTINATION	TIME AT DESTINATION	TOTAL AIR TRAVEL TIME	FLIGHT(S) TO	FLIGHT(S) FROM
HALIFAX	13:47	14:59	PV 220	PV 227
HALIFAX	8:32	9:44	PV 220	PV 225
CHARLOTTETOWN	6:03	14:59	PV 220/PV 211 VIA HALIFAX	PV 212/PV 227 VIA HALIFAX
SYDNEY	6:34	14:59	PV 220/PV 152 VIA HALIFAX	PV 129/PV 227 VIA HALIFAX
ST. JOHN'S	7:57	14:59	PV 220/PV 120 VIA HALIFAX	PV 157/PV 227 VIA HALIFAX

FIGURE 3.18: SAME DAY RETURN OPPORTUNITIES FROM MONCTON TO (HALIFAX - CHARLOTTETOWN - SYDNEY - ST. JOHN'S)

In the reverse direction, the opportunities to conduct a day's business in Moncton from various other locations have also been illustrated. These opportunities have been plotted in Figures 3.19 and 3.20. Figure 3.19 illustrates the opportunities to achieve same-day return trips to Moncton from Montreal, Ottawa and Toronto. Similarly, Figure 3.20 illustrates the opportunities to achieve a business trip in Moncton from Halifax, Charlottetown, Sydney and St. John's, Newfoundland.

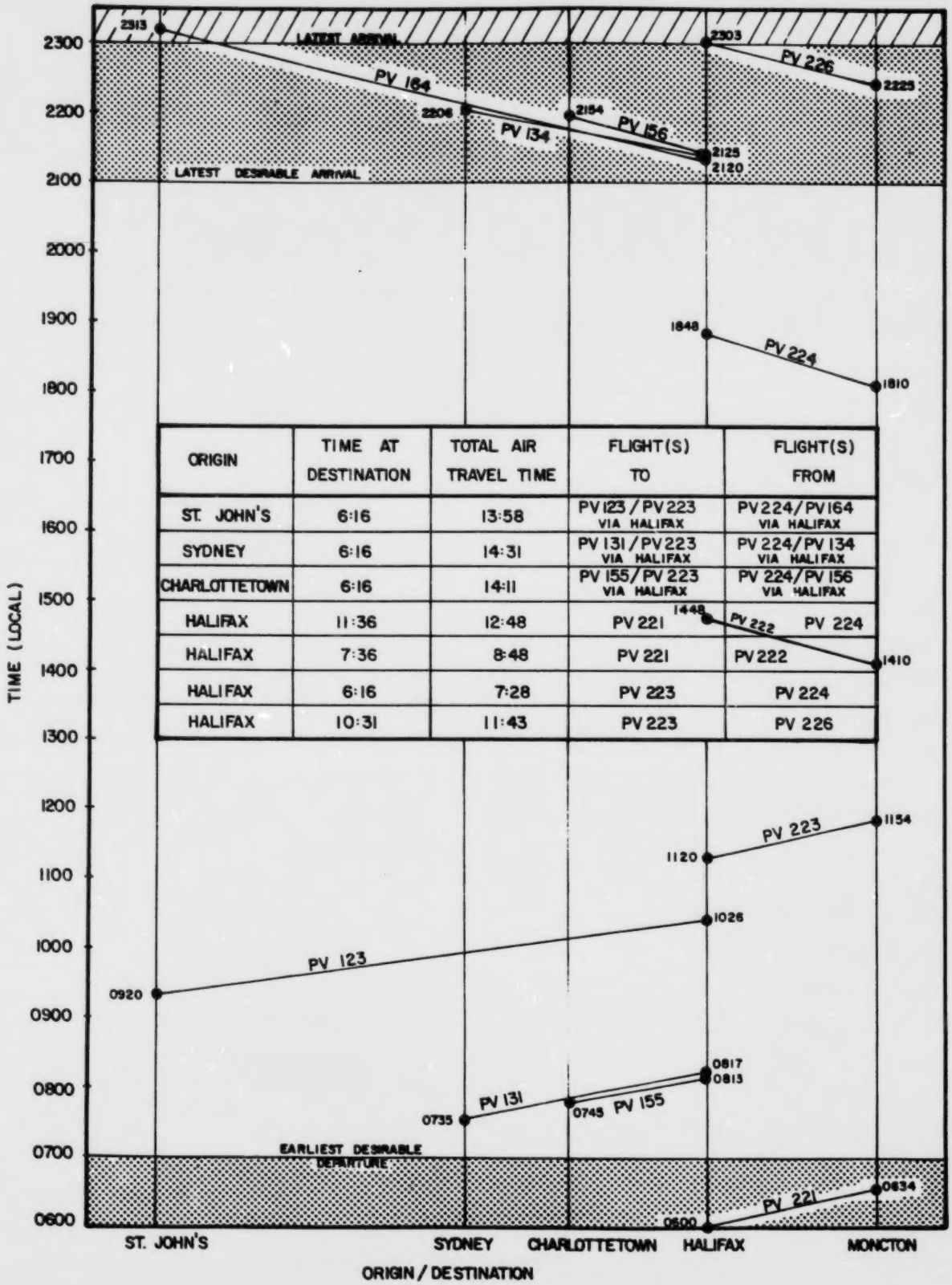
Considering the information illustrated in Figure 3.17, it is evident that Moncton has same-day opportunities for return business in Montreal. The existing schedule provides an opportunity to achieve 9 hours and 39 minutes at the destination with the total time between the departure of the morning flight and the return of the evening flight being in excess of 12 hours. This is achieved by departure at 7:20 in the morning on Air Canada Flight 167 (AC 167) arriving at 7:41 local time in Montreal. The return leg is accommodated by AC 176 which comes through from Ottawa to Montreal departing Montreal at 17:20, arriving in Moncton at 19:33. This is a good level of service in that it gives direct non-stop flight opportunity, provides a full business day at the destination and allows the traveller to be back on the ground in Moncton in the early evening.

The opportunities to Ottawa are also illustrated in Figure 3.17. Service to Ottawa is provided by two flights, one is a continuation of the Montreal flight (AC 167) which ends up providing a total of 6 hours and 33 minutes at the destination with a total time from departure of the aircraft in the morning to touchdown in the evening of 12 hours and 13 minutes. The other opportunity for same-day return service to Ottawa from Moncton is to take a later departure at 17:55 on EPA Flight 164 (PV 164) which involves a stop-over in Halifax rather than Montreal. This flight would then connect with PV 227 to arrive in Moncton at about 22:00 hours. As noted in the summary table on Figure 3.17, however, this results in a total time from flight take-off in the morning to touch-down in the evening of approximately 15 hours. Furthermore, once an allowance is made for arrival time and check-in at the airport and return from the airport



ORIGIN	TIME AT DESTINATION	TOTAL AIR TRAVEL TIME	FLIGHT(S) TO	FLIGHT(S) FROM
TORONTO	7:07	9:10	AC 650 VIA MONTREAL	AC 669
TORONTO	7:22	14:03	AC 650 VIA MONTREAL	PV224 / PV 157 VIA HALIFAX
TORONTO	9:32	16:53	AC 650 VIA MONTREAL	AC 671 / AC 473 VIA MONTREAL, OTTAWA
OTTAWA	9:38	14:57	AC 640/AC 650 VIA MONTREAL	AC 671 VIA MONTREAL
MONTREAL	9:32	12:06	AC 650	AC 671
MONTREAL	7:22	11:24	AC 650	PV 224/AC 639 VIA HALIFAX

FIGURE 3.19: SAME DAY RETURN OPPORTUNITIES FROM (MONTREAL - OTTAWA - TORONTO) TO MONCTON



ORIGIN	TIME AT DESTINATION	TOTAL AIR TRAVEL TIME	FLIGHT(S) TO	FLIGHT(S) FROM
ST. JOHN'S	6:16	13:58	PV 123 / PV 223 VIA HALIFAX	PV 224 / PV 164 VIA HALIFAX
SYDNEY	6:16	14:31	PV 131 / PV 223 VIA HALIFAX	PV 224 / PV 134 VIA HALIFAX
CHARLOTTETOWN	6:16	14:11	PV 155 / PV 223 VIA HALIFAX	PV 224 / PV 156 VIA HALIFAX
HALIFAX	11:36	12:48	PV 221	PV 222 PV 224
HALIFAX	7:36	8:48	PV 221	PV 222
HALIFAX	6:16	7:28	PV 223	PV 224
HALIFAX	10:31	11:43	PV 223	PV 226

FIGURE 3.20: SAME DAY RETURN OPPORTUNITIES FROM (ST. JOHN'S - SYDNEY - CHARLOTTETOWN - HALIFAX) TO MONCTON

to the home place after the arrival back in Moncton, this results in an unacceptably long day. The time available with this combination of flights results in about 8 3/4 hours on the ground at the destination location in Ottawa.

Figure 3.17 also illustrates the opportunities for same-day return to Toronto. As is the case with Ottawa, there are 2 opportunities, both of which involve flight changes in the outbound direction at Montreal. In the return direction, there are two options, one with a flight change at Halifax, the other with a stop-off in Saint John. These opportunities result in approximately 8 to 9 3/4 hours at the destination. However, both require in the vicinity of 15 - 16 hours of travel time plus the associated ground access and return times at both airports. Both of these cases result in extremely long days.

Figure 3.18 provides a similar flight-by-flight illustration and summary tabulation of the same-day return opportunities from Moncton to other regional centres within the Atlantic provinces. The cities within the Atlantic Provinces for which same-day return opportunities were evaluated include Halifax, Charlottetown, Sydney and St. John's, Newfoundland. The data summarized in Figure 3.18 clearly illustrate that only in the case of Halifax is reasonably convenient service available. The exisiting EPA schedule to Halifax provides the opportunity for a morning flight to Halifax (PV 220) departing at 7:00 and arriving at 7:38. A total of 8 hours and 32 minutes is possible at the destination with a return flight (PV 225) departing from Halifax at 16:10. This flight goes directly to Moncton with an arrival at 16:44. This results in a total time from the departure of the morning aircraft until the return of the afternoon flight of 9 hours and 44 minutes. This is a reasonably good service although it necessitates leaving the downtown Halifax area prior to 15:00 hours in the mid-afternoon.

For Halifax, however, there is also a second alternative for return to Moncton on a late evening flight (PV 227) departing Halifax at 21:25.

This provides a complete day with approximately 14 hours on the ground in Halifax. This results in a total travel time of about 15 hours, exclusive of access time to the airports.

For the other three regional cities, it is evident that the amount of time available at the destination is restricted to between 6 and approximately 8 hours. As well, to achieve these times at the destination, a total of nearly 15 hours is required from the departure of the morning flight to the arrival of the evening flight. In all these cases transfers are required to other aircraft in Halifax.

In addition to reviewing the opportunities for same-day return service for business activities outbound from Moncton, a similar evaluation was carried out to summarize the opportunities for inbound business trips to Moncton from the same extraregional and regional centres previously discussed above. Figures 3.19 and 3.20 illustrate the summary of same-day return business trip opportunities to Moncton from these locations.

Figure 3.19 provides the summary of opportunities to Moncton from Toronto, Ottawa and Montreal. The only direct flight opportunity to Moncton is that from Montreal. This flight (AC 650) involves an 8:35 departure in the morning with an arrival in Moncton at 10:48. This provides a total of 9 hours and 32 minutes in Moncton with an overall trip time of in excess of 12 hours.

The second same-day return opportunity from Montreal to Moncton involves a combination of flights PV 224 and AC 639. This option provides 7 hours and 22 minutes on the ground in Moncton. The advantage of achieving a return to Montreal about 1 hour earlier has to be traded off against the need for a transfer in Halifax.

There is also an additional opportunity for same-day return to Moncton from Montreal involving a connection in Halifax on the return. However, this opportunity was not plotted because it results in an unacceptable short period of time at the destination (only 3 hours and 22 minutes, which is ineffective for business uses).

Inbound same-day return service to Moncton from Ottawa is available with connections at Montreal involving either a combination of Air Canada flights and/or a combination of Air Canada and EPA flights. However, the only reasonable same-day return opportunities to Moncton from Ottawa is that associated with the Air Canada flight 640/650 combination inbound in the morning from Ottawa arriving at 10:48 with an outbound direct departure on AC flight 671 at 20:20 with arrival in Ottawa at 22:12. This provides 9 hours and 38 minutes at the destination on the ground in Moncton but involves a total of nearly 15 hours of travel and work from the time of departure in the morning until the return at Ottawa airport in the evening. Furthermore, the arrival time back in Ottawa is 22:12. Obviously, by the time the traveller returns from the Ottawa airport to home base it will be approaching midnight.

For inbound service to Moncton from Toronto, there are three possible opportunities. Two involve inbound flights via Montreal and a combination of returns via either Montreal, Ottawa or Halifax. One of these same-day return opportunities provides seven hours and twenty-two minutes at the destination. This combination with the inbound trip via Montreal and the return via Halifax involves a departure at 6:50 a.m. and a return in Toronto at 20:53.

The other opportunity which results in a slighty longer period of time at the destination (nine hours and thirty-two minutes) is accomplished by a combination of AC 650 to Moncton in the morning via Montreal with a return on AC 671 and AC 473 in the evening. This return requires a stop in Montreal, a change of aircraft to AC 473 in Ottawa, and then onward to Toronto. Obviously this flight, which is not scheduled to arrive in Toronto until almost midnight, is a highly undesirable option. The third opportunity involves the same morning connection, but the return is direct and provides adequate same day return service.

Figure 3.20 illustrates the opportunities for same day return to Moncton from the Atlantic Region cities of Halifax, Charlottetown, Sydney and St. John's, Newfoundland. The opportunities for same day return to Moncton from Halifax are more extensive than for any of the other regional points included in Figure 3.20. Two of the opportunities involve a very early

departure at 06:00 from Halifax. These flights provide for seven hours and thirty-six minutes or eleven hours and thirty-six minutes on the ground in Moncton with a return in the same day. The direct return flights to Halifax (PV 222 or PV 224) from Moncton arrive at either 14:48 or 18:48.

The other opportunities for same day return to Moncton from Halifax involve a departure out of Halifax at 11:20 with returns departing Moncton at either 18:10 or 22:25. Obviously the 22:25 departure, which does not arrive in Halifax until after 23:03, is not desirable unless there is a need for evening meetings in Moncton. The other afternoon opportunity, however, provides for six hours and sixteen minutes on the ground with a return to Halifax by 18:48. This is a reasonable return time for part day business in Moncton.

The same day business return opportunities from Charlottetown to Moncton are not at all attractive. The maximum time available on the ground in Moncton from Charlottetown is six hours and sixteen minutes. To achieve this it is necessary to consume fourteen hours and eleven minutes from take-off in the morning to arrival on the ground back in Charlottetown. It is also necessary to travel via Halifax where over three hours are spent waiting for connections on the inbound trip to Moncton in the morning. Two hours and thirty-seven minutes of wait time is required for connections on the evening return. This results in a total of five hours and forty-four minutes waiting time between connecting flights in Halifax.

The departure from Charlottetown is at 7:45 in the morning with the return arriving on the ground at Charlottetown at 21:54 in the evening. Thus over 14 hours are required to realize about four hours of useful working time at the destination in Moncton.

Similar opportunities for same-day return from St. John's to Moncton exist. The total elapsed time from take-off to touchdown back at the origin in St. John's is about fourteen hours with only six hours and

sixteen minutes available on the ground in Moncton. This trip involves a total of three hours and twenty-eight minutes connection time in Halifax, which is entirely unacceptable. As discussed later, an hour connect time appears to be an acceptable time for business travel.

The inbound service from Sydney is also limited to a total of six hours and sixteen minutes on the ground in Moncton for which it is necessary to spend fourteen hours and thirty-one minutes from the time of morning departure in Sydney until touchdown in Sydney in the evening. As well, inherent in this scheduling is the necessity to spend a total of five hours and forty minutes waiting in Halifax.

In summary, the discussions regarding Figures 3.17 to 3.20 inclusive have provided a comprehensive evaluation of the critical elements of air service scheduling available presently at Moncton. The information included in these figures and the discussions associated with them clearly illustrate the necessity for transfers between flights as well as the need for stop-overs in many cases.

The discussion regarding the four above noted figures also indicates some elements of the criteria for establishing desireable event times for air scheduling. This figure is based on a desireable criteria of an earliest outbound flight departure of seven o'clock in the morning with a desireable latest arrival time for evening flights of 21:00. The absolute latest return flight arrival time has been defined as 23:00. These air schedule event times are illustrated separately in Figure 3.21 and are based on work previously completed by the Study Team. The focus group meetings (see Chapter 6.0) provided a confirmation of these event times, as well as more detail.

If the existing schedules illustrated in Figures 3.17 to 3.20 are reviewed in conjunction with the suggested desireable event times shown in Figure 3.21, it is evident that for the most part the morning departures are consistent with the earliest desirable outbound departure time. The

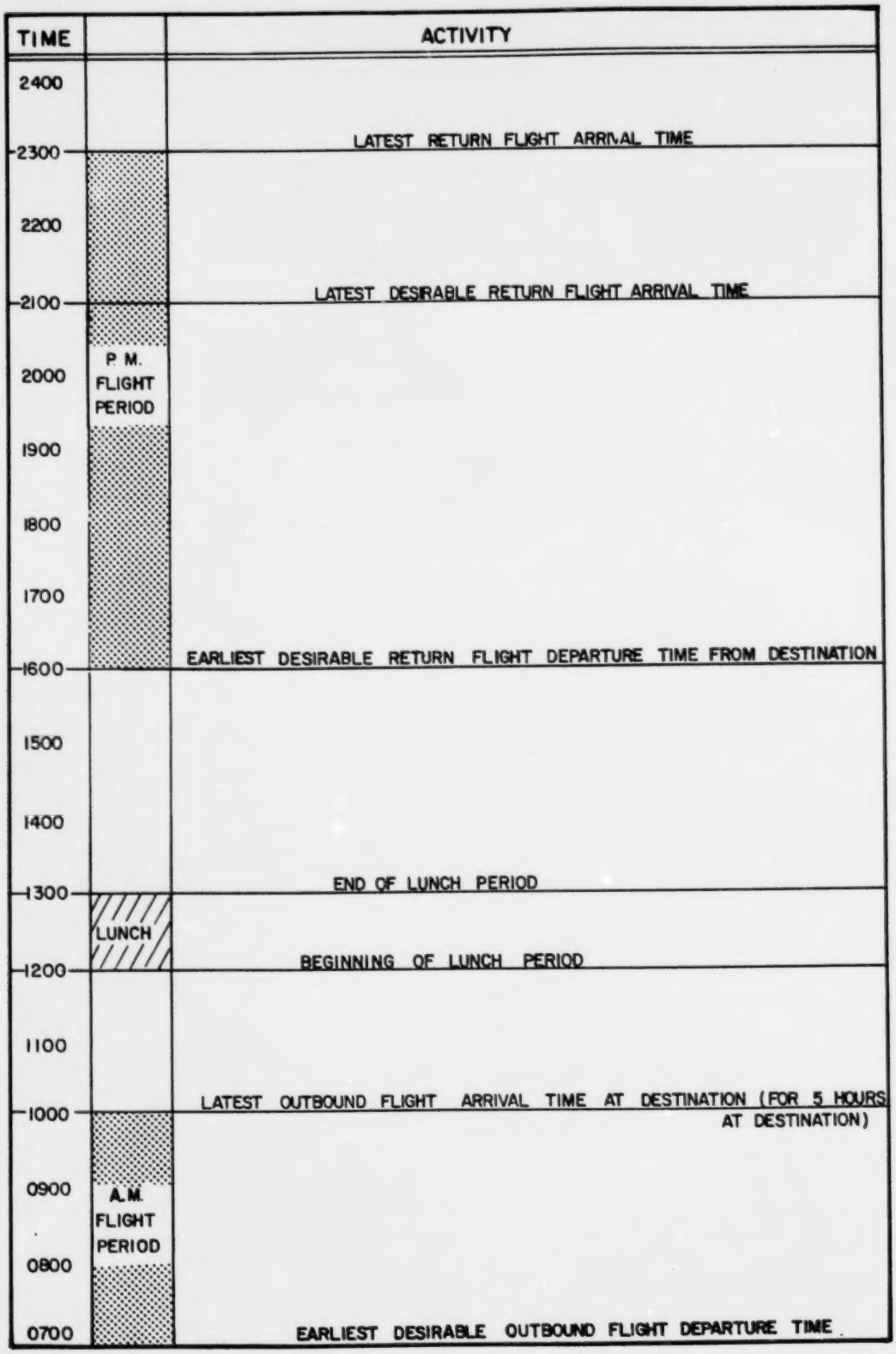


FIGURE 3.21: DESIRABLE AIR SCHEDULE EVENT TIMES

exception to this, however, is the early morning flight to Moncton from Halifax (PV 221) which departs at 06:00 arriving at 06:34. This is an undesireable schedule feature for which it appears that adjustments could be made.

The Hawker-Siddeley 748 flight PV 221 out of Halifax which arrives in Moncton at 06:34 returns to Halifax as PV 220. It would appear from the overall EPA schedule that the next utilization of this aircraft is on PV 231 from Halifax to Fredericton. This subsequent flight departs at approximately 8:45 with about one hour and fifteen minutes between flights in Halifax. If this time in Halifax were reduced to thirty minutes between flights, it would be possible to delay the early morning departure out of Halifax to Moncton to approximately 06:45 rather than 06:00. This would still be an early flight but would be more acceptable than the 06:00 hour departure which currently exists.

Reviewing Figures 3.17 to 3.20 for the latest arrivals in the evening, it is evident that the scheduling is less desireable than is the case for the morning departures. It should be pointed out that although the information regarding the air schedule event times in Figure 3.21 has not previously been discussed specifically in conjunction with the commentary relating to Figures 3.17 to 3.20, the critical event times have been superimposed on Figures 3.17 to 3.20. The toning and notations on these figures indicate the three key schedule event times included in Figure 3.21. The critical schedule event times are the earliest desireable departure time, the latest desireable arrival time for return flights as well as the latest return flight arrival time. The 21:00 hour arrival time is a desireable upper limit although the 23:00 hour is viewed as being an absolute extreme situation from a user perspective.

Considering the information regarding the arrival time for return flights in the evening, it is evident that for many of the same day return opportunities illustrated in Figures 3.17 to 3.20, the scheduling is not

consistent with the desirable event times illustrated in these figures. In fact, in several cases the arrival times are later than what would be considered an extreme late time limit of 23:00 hours.

Summarizing the comments relating to each of the figures, it can be noted that for Figure 3.17 the return trip from Toronto via Halifax results in arriving after the latest desireble time. This results from the wait and connection with Flight PV 227 out of Halifax to Moncton. To an even greater extent, the Air Canada evening return from Toronto to Moncton via Saint John results in over 50 percent of the total flight time from departure to arrival being after the desirable arrival time. In fact, this flight does not arrive until 15 minutes after the latest arrival criteria of 2300 hours.

For the same-day return opportunities from Moncton to other Atlantic Region centers illustrated in Figure 3.18, the late evening return from Halifax to Moncton occurs after the desirable arrival limit.

For the same-day return opportunities to Moncton from Central Canadian cities (Figure 3.19) it is evident that the opportunity to return to the origin of the trip is less than desirable for Ottawa and Toronto. It is possible to return back to Montreal at about the limit of the latest desirable arrival time for same day service. However for Ottawa, the arrival on the return from Moncton is not until 22:12 which is within less than an hour of the latest arrival criteria.

For the return to Toronto on this particular flight combination, the arrival is not until 23:43. The option available in lieu of this extremely late arrival is the return to Toronto on PV 224 and PV 157 via Halifax, which arrives at 20:53.

Figure 3.20 illustrates the deficiencies in the existing scheduling for same day return opportunities to Moncton from several other Atlantic Region cities. It is evident that the return opportunities from Halifax to Moncton are well within the acceptable criteria. However the

opportunities for same day return from Charlottetown, Sydney, and St. John's all fall outside of the latest desirable arrival time of 2100 hours. The return from Moncton to Charlottetown occurs at 21:54, the Sydney return at 22:06 and the St. John's return at 23:13.

The above comments have provided a detailed review of the schedule characteristics in terms of a variety of evaluation criteria.

3.6 Regional Comparison of Flight Opportunities

As input to subsequent analysis to be carried out relating to the assessment of future market opportunities, a comprehensive review of existing air service schedules was conducted. This review included geographical areas in addition to those Atlantic Region centers previously discussed. The basic comparison involved assembling data regarding the total number of weekly flight arrivals and departures at several airports throughout eastern Canada and the United States.

The airports selected were limited to those which had catchment populations of a comparable magnitude to Moncton.

Table 3.6 summarizes the number of weekly flight arrivals and departures and weekly number of available seats for each city examined. The cities in Table 3.6 have been grouped according to the airport location and province or state. As well, the specific airport code is indicated. Also included for Canadian cities is the number of weekly seats per capita. This calculation was based on the catchment area population. Catchment area population for the American cities was not available.

The total number of weekly flight arrivals and departures for the various cities throughout the Atlantic Region have already been discussed in detail in the previous sections of this chapter. However, additional information relating to municipalities throughout Ontario and the New England States are included in Table 3.6.

TABLE 3.6

TOTAL WEEKLY SCHEDULED AIR SERVICE
(DOMESTIC AND TRANS BORDER)

City	Airport Code	Weekly Number Of Arrivals and Departures	Weekly Number of Available Seats	Catchment Area Population	Weekly Available Seats Per Capita[1]
Moncton, N.B.	YQM	112	7 840	205 000	.038
Fredericton, N.B.	YFC	94	7 972	192 000	.042
Saint John, N.B.	YSJ	148	12 760	157 000	.081
St. John's, Nfld.	YYT	164	20 245	286 000	.071
Sydney, N.S.	YQY	96	11 190	170 000	.066
Halifax, N.S.	YHZ	708	79 094	577 000	.137
Charlottetown, P.E.I.	YYG	82	7 210	123 000	.059
Sault Ste. Marie, Ont.	YAM	142	10 932	133 000	.082
Sarnia, Ont.	YXU	52	2 912	84 000	.035
Windsor, Ont.	YQG	110	11 584	246 000	.047
London, Ont.	YXU	210	12 992	287 000	.046
North Bay, Ont.	YYB	198	10 946	57 000	0.192
Thunder Bay, Ont.	YQT	334	22 118	121 000	0.183
Sudbury, Ont.	YSB	202	4 963	150 000	0.033
Bangor, Maine	BGR	414	16 716		
Augusta, Maine	AUG	157	1 715		
Portland, Maine	PWM	669	33 631		
Bar Harbour, Maine	BHB	106	1 234		
Presques Isle, Maine	PQI	140	2 838		
Burlington, VT	BVT	640	38 448		
Montpellier, VT	MPV	60	576		
Manchester, N.H.	MHT	408	9 674		

1 Catchment Area Population

Reviewing Table 3.6 on the basis of weekly available seats per capita for Canadian cities, it can be observed that Moncton, Fredericton, Sarnia, Windsor, London and Sudbury have comparable levels of service. These communities have between 0.033 and 0.047 weekly available seats per capita. Saint John, St. John's, Sydney, Charlottetown and Sault Ste. Marie have substantially better service than Moncton with weekly available seats per capita ratios between 0.066 and 0.082.

However, Halifax, North Bay and Thunder Bay have between 3.5 and 5 times more seats available per capita than Moncton. Halifax is a regional hub for the Atlantic Region and it is understandable that the number of available seats are much higher than Moncton. The large ratios for North Bay and Thunder Bay (0.192 and 0.183, respectively) are not as easily explained.

The five municipalities in Maine were selected to include not only the major regional centres of Portland, Bangor, Augusta and Presque Isle, but also Bar Harbour was included to provide an indication of a somewhat smaller area. It is interesting to note that the larger centres of Portland and Bangor have substantially higher levels of service (in terms of available seats) than Moncton. It is not surprising that the service in Portland would be substantially greater. However, the high level of service at Bangor is higher than anticipated. The air service at Burlington and Manchester is substantially more extensive than that which exists at Moncton.

In summary, it appears from Table 3.6 that within the Atlantic Region, Saint John, Sydney, Halifax and Charlottetown all receive a higher level of air service than Moncton. As indicated previously, this comparison is reached on the basis of available seats per capita.

3.7 Capacity of System

The scheduled air service to and from Moncton is provided by two types of aircraft. Air Canada operates DC-9 aircraft with a 100 seat

configuration. The Eastern Provincial Airway service is provided by Hawker-Siddeley HS 748, which is a twin engine, turbo prop aircraft with about a 40 seat configuration.

Table 3.7 provides a summary of the total number of scheduled flights in and out of Moncton on a weekly basis as well as an indication of the number of seats inbound and outbound provided by the two scheduled air carriers.

It is evident from Table 3.7 that each airline provides a total of 28 inbound and 28 outbound flights during the peak period. Recognizing the fact that one of the Air Canada's daily flights is shared with Saint John, the seat capacity available for Moncton is reduced somewhat. Consequently, the estimate of 2 450 seats per week inbound and outbound is a reasonable summer period estimate for Moncton.

Given the 40 seat capacity of the Hawker-Siddelay 748, the weekly summer period capacity provided at Moncton is about 1 120 seats in each direction.

3.8 On-Time Performance

Information on on-time performance was provided on a monthly basis by Air Canada. The summary of Air Canada's average monthly on-time performance for all arrivals and departures is illustrated in Figure 3.22. The overall average monthly on-time performance for all Air Canada flights (inbound and outbound combined) is equal to 88 percent for the year. The monthly values range from a low of 81 percent in August to a high of 96 percent in January. Typically the on-time performance was in excess of 90 percent for five of the twelve months and between 85 and 90 percent for four of the twelve months. In only two months was the average on-time performance less than 85 percent.

The internal mandate which Air Canada strives to achieve is to have in excess of 80 percent on-time performance. The criteria by which they

FIGURE 3.22

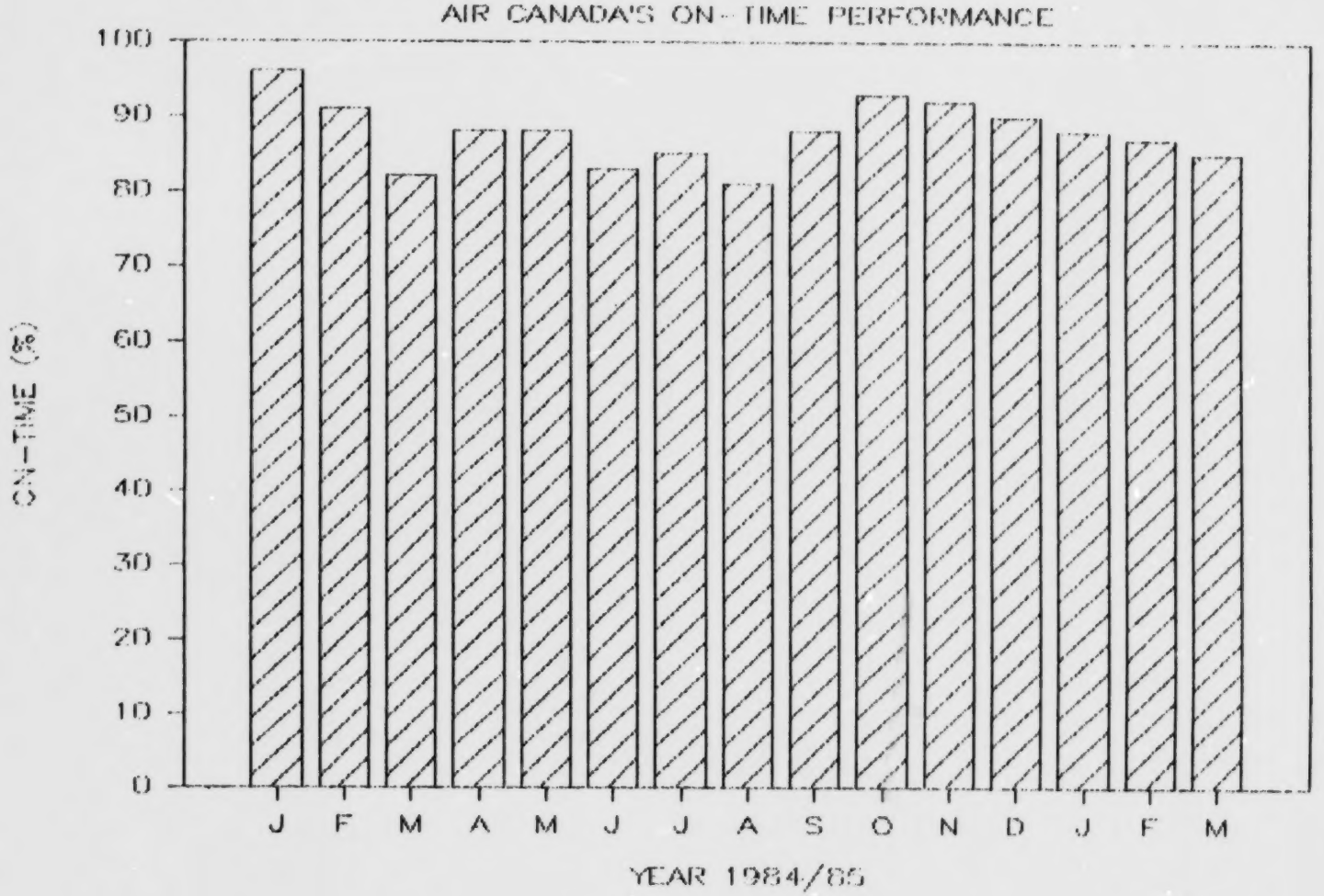

AIR CANADA'S ON-TIME PERFORMANCE
ON-TIME (%)
100
90
80
70
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M
YEAR 1984/85

Table 3.7

WEEKLY SCHEDULED ARRIVALS/DEPARTURES
AT MONCTON (1985 Summer Period)

	Number of Flights		Number of Seats	
Carrier	Inbound	Outbound	Inbound	Outbound
Air Canada	28	28	2 450*	2 450*
Eastern Provincial	28	28	1 120	1 120

* An adjustment in this total has been made to reflect the fact that one flight daily is shared with Saint John.

measure conformance to this standard is to achieve not more than a maximum of five minutes delay, with wheel stop or wheel start being used as the reference time.

Although no information is currently available from EPA, the Greater Moncton Chamber of Commerce has independently carried out a survey of on-time performance for both Air Canada and EPA during the months of March, April and May of 1985. Table 3.8 summarizes the results of this independent survey conducted by one of the members of the Chamber. The information was recorded for both five minute and fifteen minute "on-time" evaluation criteria. Since the five minute criteria is the normal industry standard, the following comments are relevant:

1. The on-time performance for Air Canada during the three months in question varied from a low of 67.2 percent on arrivals to a high of 78.3 percent. The on-time performance for departures was substantially better with the low occuring in April during which there was 75 percent on-time performance and the maximum in May with a 93.7 percent on-time performance.

2. The EPA performance for arrivals was less than 70 percent for both March and April and 73.2 percent for May. However, the departure performance for EPA varied from 80 percent in March to a high of 85.1 percent in April.

3. A comparison of the values in Table 3.8 versus those received from Air Canada indicate a variance of 10 to 15 percentage points.

The above comments summarize the general on-time performance characteristics based on data provided by the two sources of data noted. The difference in Air Canada's on-time performance data and that collected by the Chamber survey is difficult to explain. One possible explanation could be the conformance reference point.

Table 3.8

INDEPENDENT SURVEY OF ON-TIME PERFORMANCE (1985)

		% of Flights on Time			
		Criteria			
		5 Minutes		15 Minutes	
Month	Carrier	Arrival	Departure	Arrival	Departure
March	Air Canada	75.3	82.2	82.2	86.3
	EPA	66.7	80.0	77.2	86.0
April	Air Canada	67.2	75.0	77.6	87.9
	EPA	69.1	85.1	88.3	95.4
May	Air Canada	78.3	93.7	87.5	95.0
	EPA	73.2	81.4	87.6	88.7

Source: Greater Moncton Chamber of Commerce

It is not possible to comment further on the cause of such delays since the specific information is not available from the carriers. To provide further comment as to the delay sources would be purely speculative. The only direct information available was that received from Air Canada in which it was indicated that in many cases the source of delays is often passenger related. These delays typically result from late check-ins. Similarly, based on indirect comment, it has been noted that EPA officials have previously indicated to Chamber representatives that during the winter period about 25 percent of the delays are caused from poor weather with the remaining 75 percent resulting from a combination of various non-weather related factors.

3.9 Greater Moncton Chamber of Commerce Member Air Service Adequecy Survey

3.9.1 Introduction

During the spring of 1984, the Greater Moncton Chamber of Commerce carried out a comprehensive survey of its membership. This survey was designed to provide an indication of the nature of business travel requirements for the Chamber's member firms and organizations. The four page survey questionnaire dealing with general business travel patterns, views regarding existing air service, views regarding improvements and respondent profile data was distributed to six hundred and fifty member firms and organizations.

The survey resulted in receipt of completed questionnaires from 128 (19.7 percent) of the member agencies. The information obtained from the Chamber's survey provided a meaningful overview of the requirements of the business community. Some of the key results of that survey are included in this chapter for convenient reference.

The results of the Chamber survey are summarized under the following topics:

- Business Travel Patterns;
- Assessment of Existing Air Services in Moncton (regarding scheduling, frequency, reliability and quality);
- Comments Regarding Improvements Desired; and
- Comments Regarding the Use of Halifax Airport as an Alternative to the Moncton Airport.

3.9.2 Business Travel Patterns

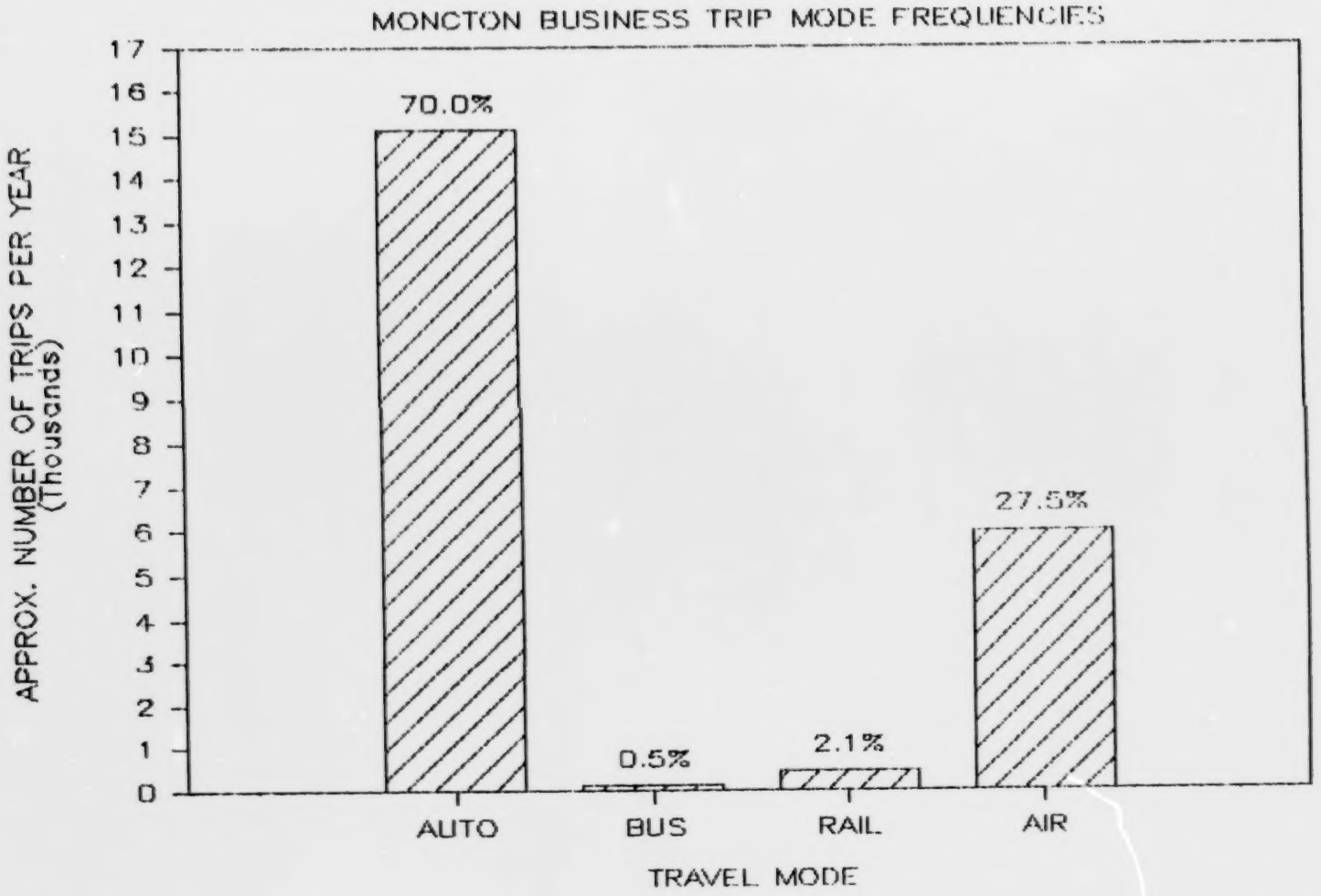
The Chamber of Commerce questionnaire obtained a good general indication of the frequency of business travel to a number of key destinations by each of the primary modes of transportation. The results of this survey indicated a breakdown of the approximate share of business related trips by each mode of travel. Figure 3.23 illustrates the relative share of business trips made by the auto, bus, train and air modes. As is anticipated, the vast majority of business trips are made by the automobile. The second largest share (27.5 percent) of the trips was captured by the air mode. Rail and bus in total represent less than 3.0 percent of the business trips.

The information derived from the Chamber's survey also provided an indication of the major destinations for business travel out of Moncton for each of the four travel modes. Figure 3.24 provides an illustration of the geographical distribution of the trips made by the air mode. It is apparent that the greatest number of trips are those relating to long distance travel. For example, Montreal, Halifax, Toronto, and St. John's, Newfoundland represent the highest frequency of use for air travel.

Figure 3.25 provides an indication of the most frequent destinations used for rail travel. These frequent destinations include Halifax, followed by Montreal, Campbellton, Saint John and Sydney.

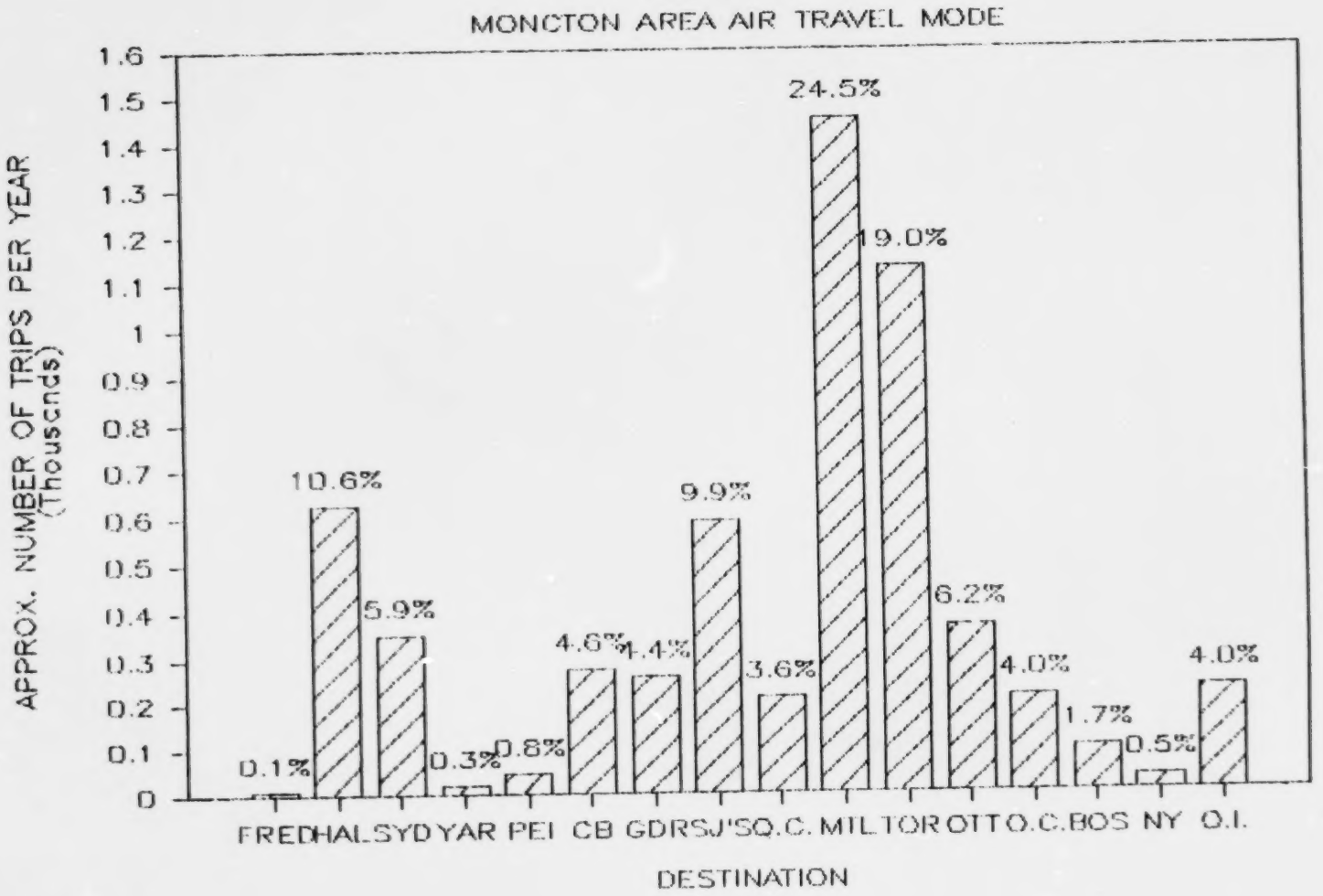
Figure 3.26 illustrates the primary destinations for Moncton related trips made by the bus mode. The information from this survey indicated that the

FIGURE 3.23



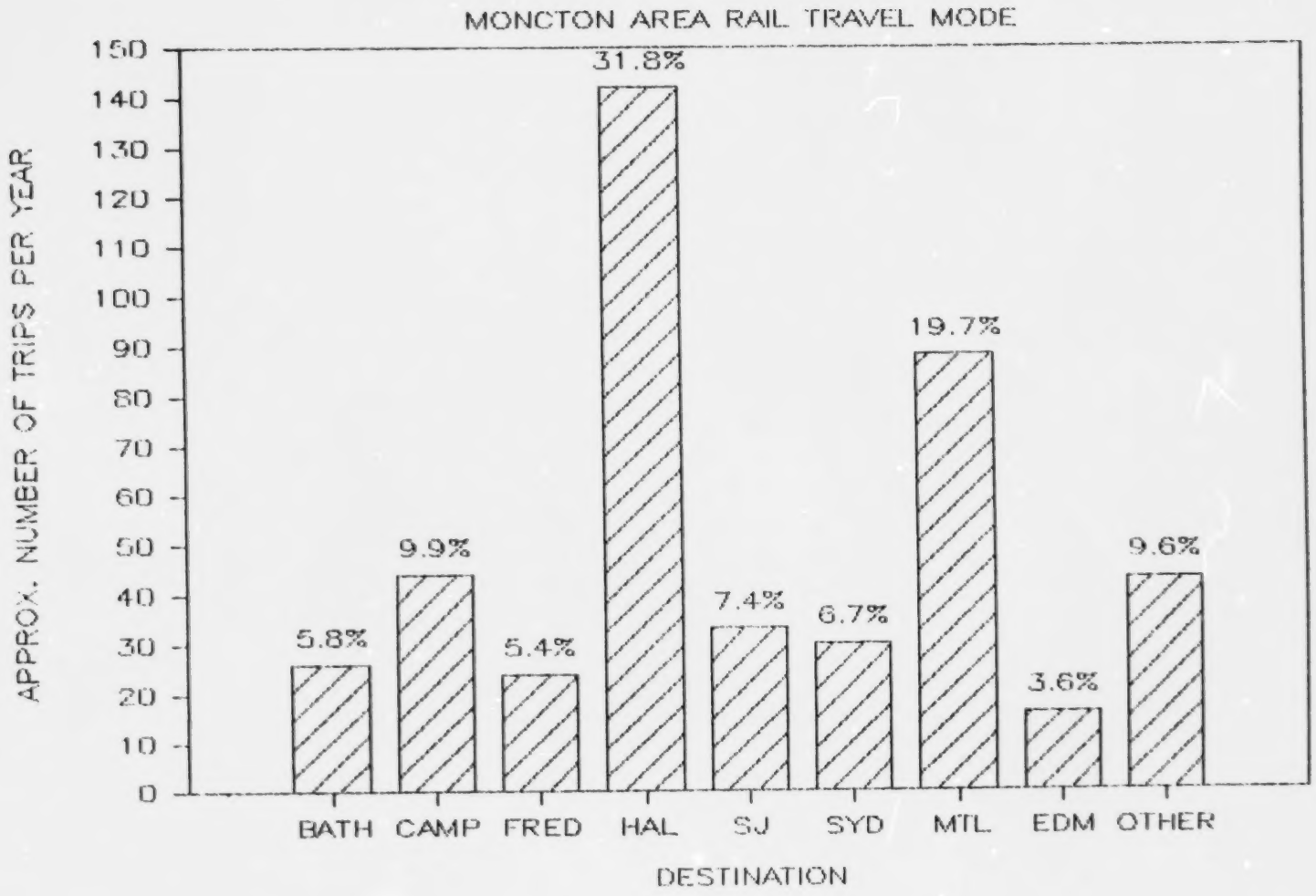
Source: Greater Moncton Chamber of Commerce Survey, Spring, 1984

FIGURE 3.24



Source: Greater Moncton Chamber of Commerce Survey, Spring, 1984

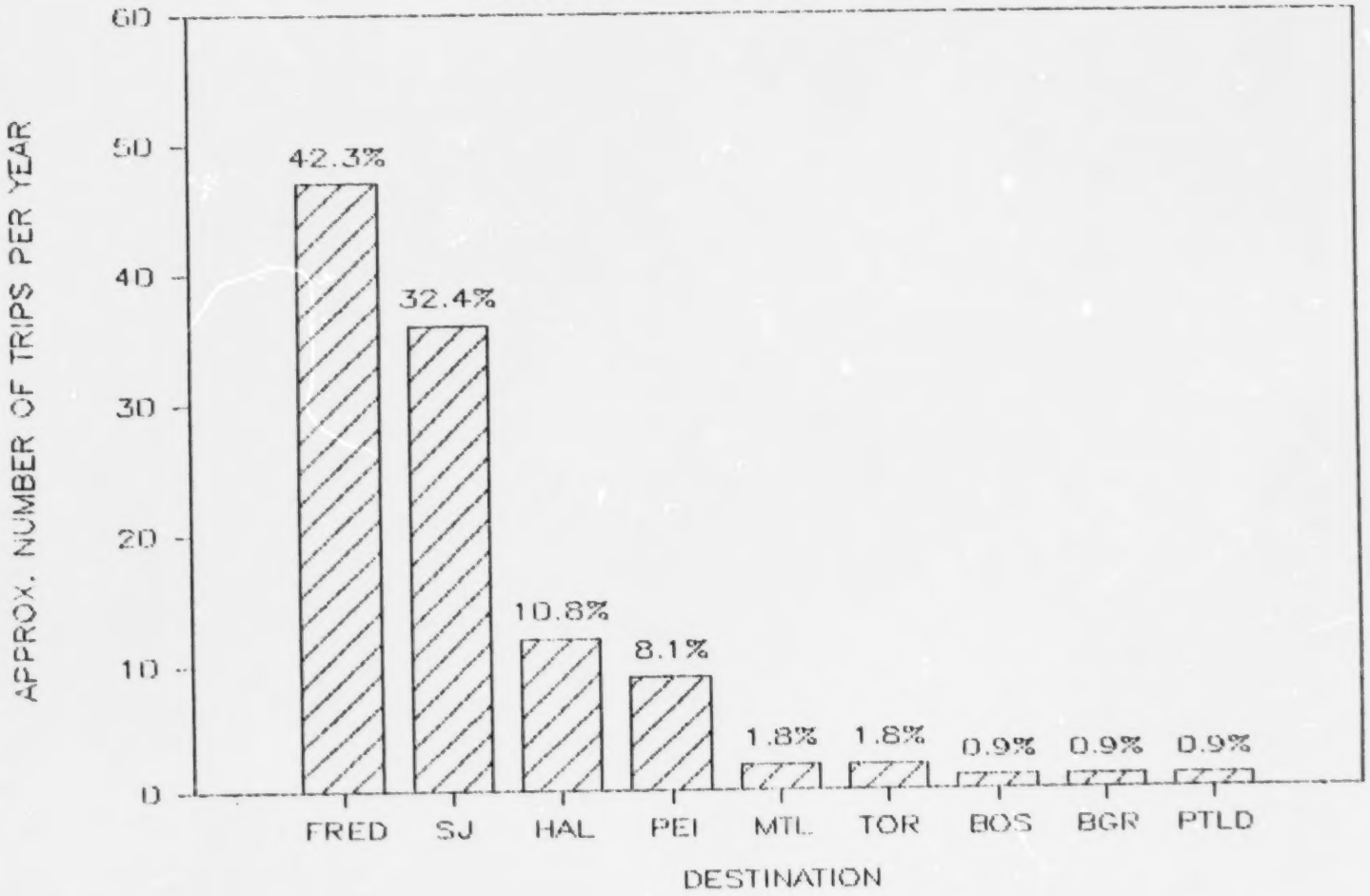
FIGURE 3.25



Source: Greater Moncton Chamber of Commerce Survey, Spring, 1984

FIGURE 3.26

MONCTON AREA BUS TRAVEL MODE



Source: Greater Moncton Chamber of Commerce Survey, Spring, 1984

primary destinations by this mode were Fredericton, Saint John and Halifax followed by Prince Edward Island. These destinations represented in excess of 90 percent of all bus related trips indentified in the survey.

3.9.3 Views Regarding Assessment of Existing Air Service

The respondents to the Chamber's survey expressed their opinion regarding the air service between Moncton and the various other communities in terms of (a) scheduling, (b) frequency of service, (c) reliability and (d) quality. The scheduling considerations related primarily to departure and arrival times while the frequency related to the number of flights per day or week. The reliability factor was described in terms of on-time performance and the quality factor was described to the respondent as being those factors associated with in-flight service, such as meals and comfort.

The results of the survey indicate percentages of those respondents who judged the various elements of service as being inadequate, adequate, good or excellent.

Regarding scheduling, with the exception of Montreal, Toronto and Ottawa, along with some other Canadian destinations, in excess of 60 percent of the respondents indicated existing service at Moncton to be inadequate. With the exception of the above noted cities, generally less than ten percent of the respondents indicated the scheduling to the identified destinations as being good to excellent. Similar relationships were revealed for the frequency of service. Generally a poorer degree of satisfaction was indicated for the frequency variable.

Similarly, with the exception of service to Saint John, Montreal, Toronto, and Ottawa the reliability factors were not considered to be good. Typically less than 20 percent of the respondents indicated a rating of good to excellent for this criteria.

The quality of service variable also resulted in 60 to 70 percent of the respondents indicating inadequate or only adequate satisfaction with the service to Atlantic Region destinations.

3.9.4 Views on Improvements

Based on the questions relating to identification of the desirable elements for improvements, the survey identified a list of improvements desired by the users. The list has been developed in descending order of importance based on the frequency upon which the specific item was identified by the respondents. The list (in descending order of importance) is as follows:

1. Increased frequency of flights generally;
2. Reduced number of EPA flights delayed or cancelled;
3. Replace the EPA Hawker-Sydley 748 aircraft;
4. Schedule a flight to the U.S. from Moncton;
5. Improved scheduling of flights generally;
6. Provide same-day return service to Maritime destinations;
7. Improve quality of in-flight services (Air Canada);
8. Schedule a mid-day flight to Montreal from Moncton;
9. Provide a non-stop service between Moncton and Toronto;
10. Provide a direct flight to Quebec City from Moncton;
11. Shorten wait time to Halifax for connections to Newfoundland;
12. Schedule a mid-day flight to Halifax from Moncton;
13. Schedule a later departure from Ottawa to Moncton;
14. Schedule an earlier departure from Toronto to Moncton;
15. Reduce air fares;
16. Shorten wait time at Montreal for connections to Moncton from Ottawa;
17. Schedule earlier departure to Montreal and Toronto from Moncton;
18. Improve connections to international flights out of Montreal and Halifax;
19. Schedule a later departure from Montreal to Moncton; and
20. Schedule an early evening departure to Ottawa from Moncton.

Some of these schedule related items have been modified since the Chamber survey was conducted in the spring of 1984. However, many of the above items are still relevant as was noted in the detailed evaluation of current schedules, which is included in Section 3.5 of this document.

3.9.5 Comments Regarding the Use of Halifax Airport as an Alternate to Moncton

The questionnaire also asked specific questions as to the extent to which business travellers from the Moncton area were utilizing the Halifax airport in lieu of the facility at Moncton. The results of this question revealed that nearly 54 percent of the corporate responses indicated they had employees who in fact drive to Halifax to use the airport there for flights involving connections rather than use the Moncton Airport.

The primary reasons cited for diversion to Halifax Airport for connecting flights rather than the use of Moncton, are summarized in descending order as follows:

1. The number of flights at Moncton delayed or cancelled;
2. Need for more competitive air fares;
3. Shorten wait for connections to Newfoundland and international flights at Halifax;
4. The frequency of flights;
5. No Hawker-Siddeley 748s;
6. Direct, non-stop service to points beyond Halifax;
7. No mid-day flight to and from Halifax; and
8. No Sunday flight to Halifax to connect to Newfoundland.

The results of this survey by the Chamber provide a reasonably comprehensive overview of user opinion of air service in Moncton at the time of the survey (spring of 1984). It should be recognized, however, that the existing schedules which have been examined earlier in this chapter have been modified to rectify some of the concerns noted in the

Chamber survey. On the other hand, a number of major difficulties still exist with the existing schedules. Many of these have been pointed out in the previous discussions in this chapter.

3.10 Air Fares

3.10.1 Comparison of Unit Fare Structure

An analysis was conducted to determine if the fare structure associated with Moncton oriented trips is consistent with those at other Maritime airports. To achieve this review, fares were determined between Moncton and the following centers:

- Fredericton;
- Saint John;
- Charlottetown;
- Halifax;
- Sydney;
- St. John's;
- Montreal;
- Toronto;
- Ottawa; and
- Yarmouth.

Based on information developed from the air travel agents for economy air fares, the unit cost per statute mile for one-way fares between Moncton and all of the above destinations was calculated. Similarly, for purposes of comparison, similar sets of unit rate structures were developed to the same set of destinations for each of Saint John and Fredericton.

In addition to the one-way, economy fares, discount return fares were examined. It was determined that the discount return fares were consistently equal to 140 percent of the one-way economy fares for all cases examined.

The unit fares between the three base locations (Moncton, Fredericton and Saint John) and the possible destinations listed above are illustrated in Figure 3.27. Individual plots for the data relating to each of these locations are illustrated in Figures 3.28 to 3.30 respectively.

The results of this analysis indicated the following:

a). The rate structure for each of the three cities is consistent; and

b). The unit fares generally decrease as the distance between points increase. This is consistent with the typical pricing structure. It is also obviously consistent with the costs of airline operation which reflect increased costs for the short haul flights.

3.10.2 Modal Cost Comparisons

For purposes of developing potential estimates of future air service markets in subsequent stages of this study, a comparison of the cost associated with business trips by the three primary public transportation modes was developed. This analysis is the initial stage of a more detailed evaluation which will be carried out to determine the future market potential for improved air service.

For this aspect of the analysis, the fares by the bus, rail and air modes were compared for trips between Moncton and the following fourteen centers:

Destination Code	Destination
1	Bathurst
2	Charlo
3	Chatham
4	Edmundston

FIGURE 3.27

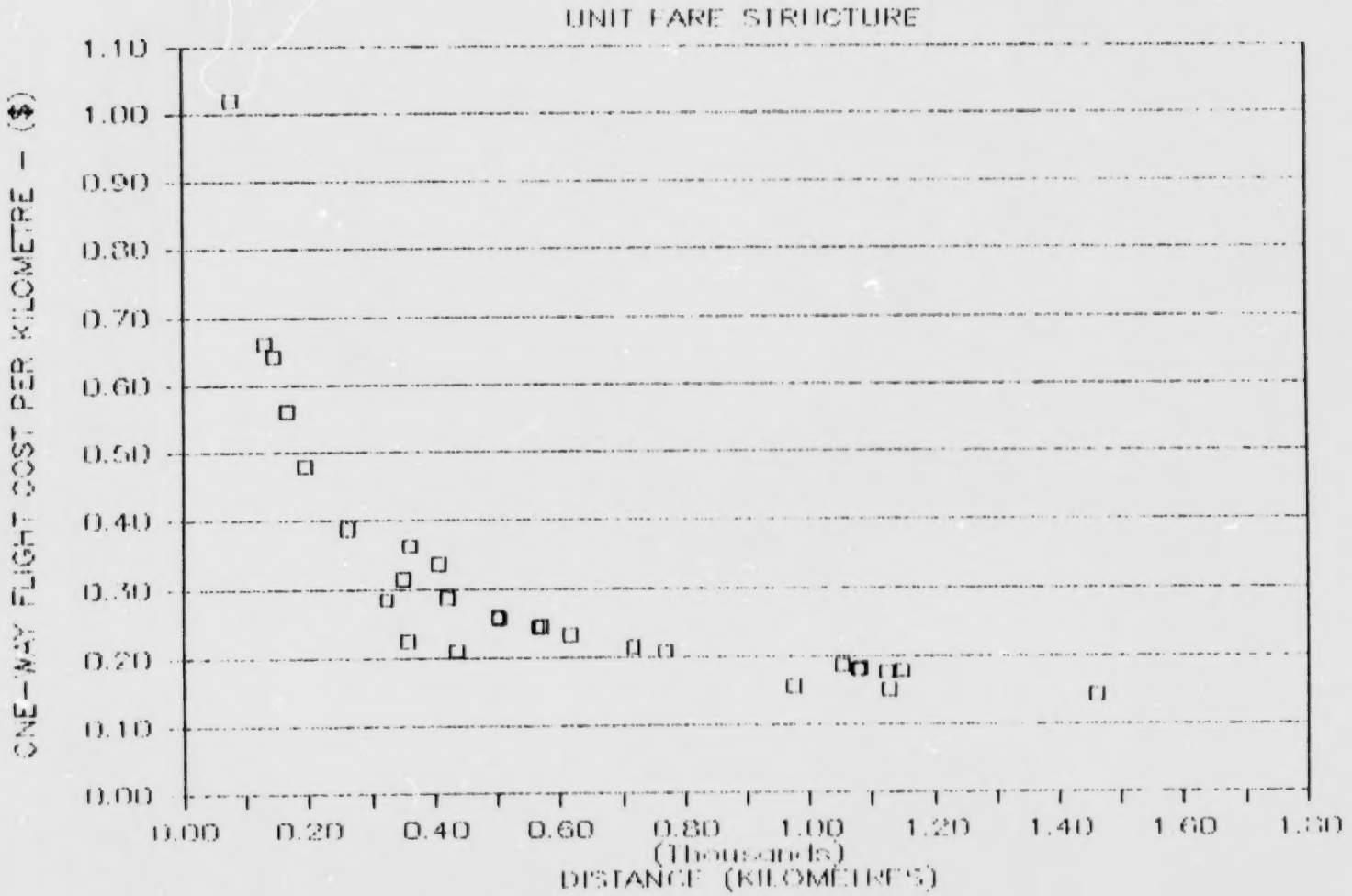

UNIT FARE STRUCTURE
ONE-WAY FLIGHT COST PER KILOMETRE - ($)
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
1.60
1.80
(Thousands)
DISTANCE (KILOMETRES)

FIGURE 3.28

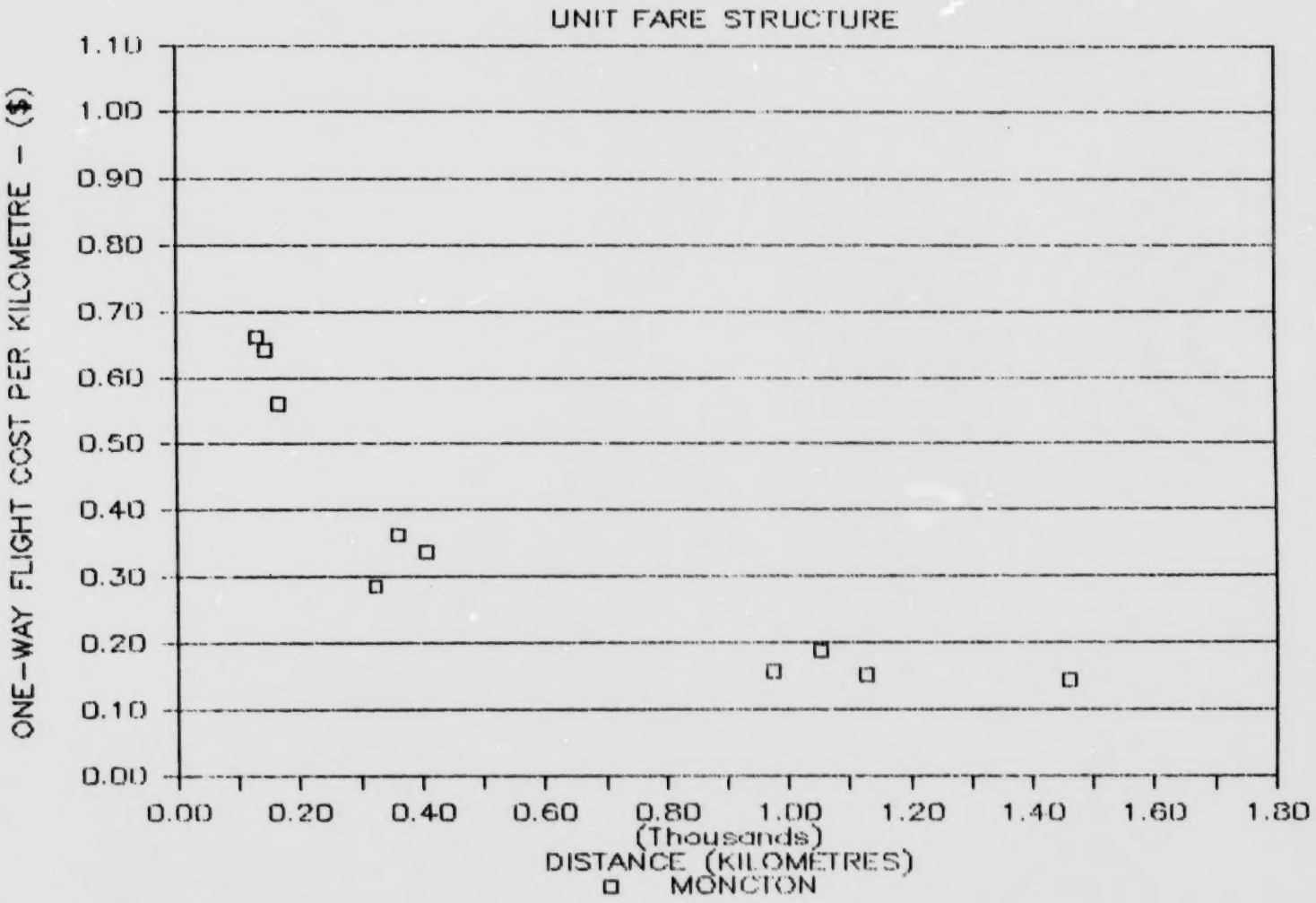

UNIT FARE STRUCTURE
ONE-WAY FLIGHT COST PER KILOMETRE - ($)
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.00
0.20
0.40
0.60
0.80
1.00
1.20
1.40
1.60
1.80
(Thousands)
DISTANCE (KILOMETRES)
MONCTON

FIGURE 3.29

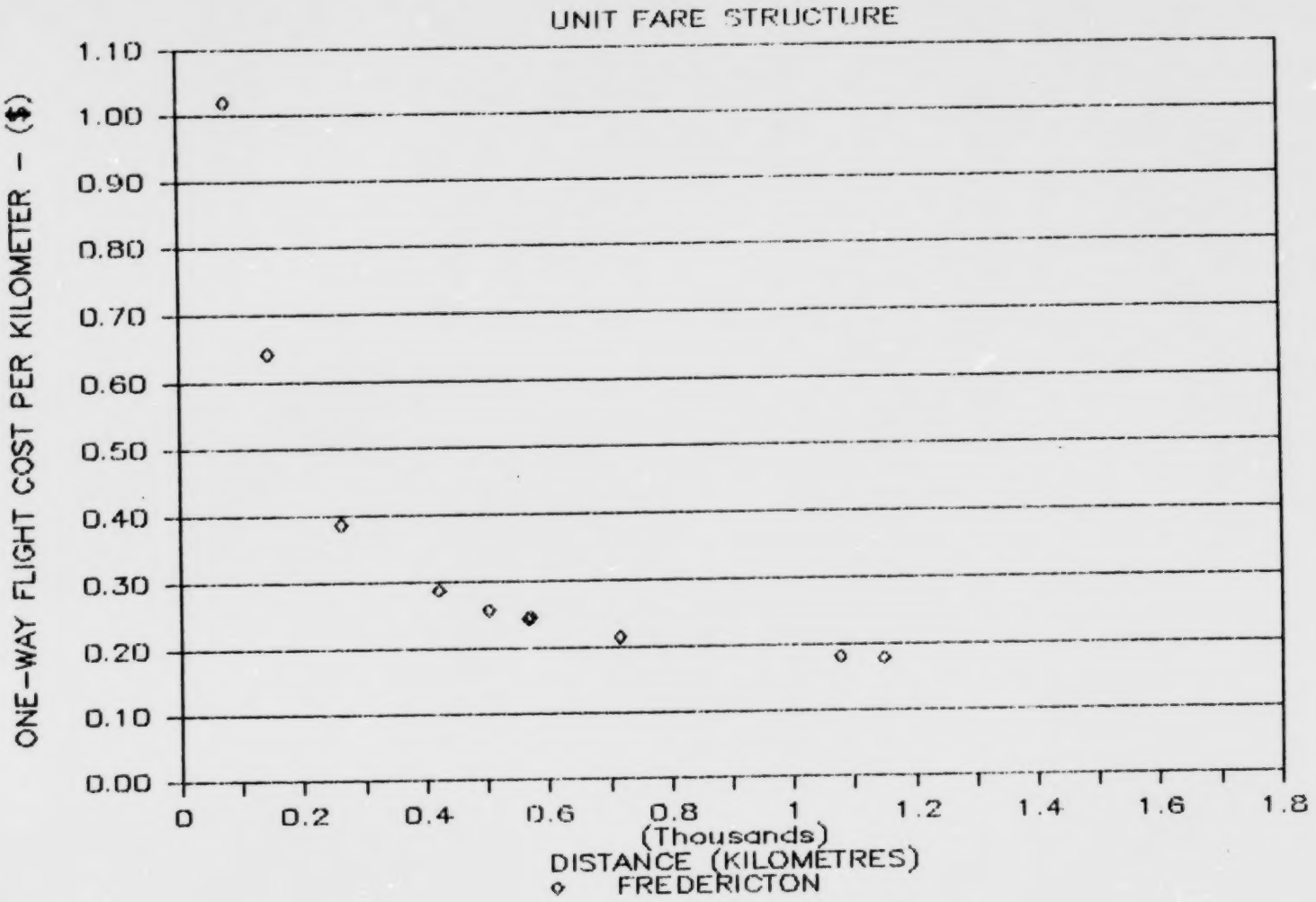
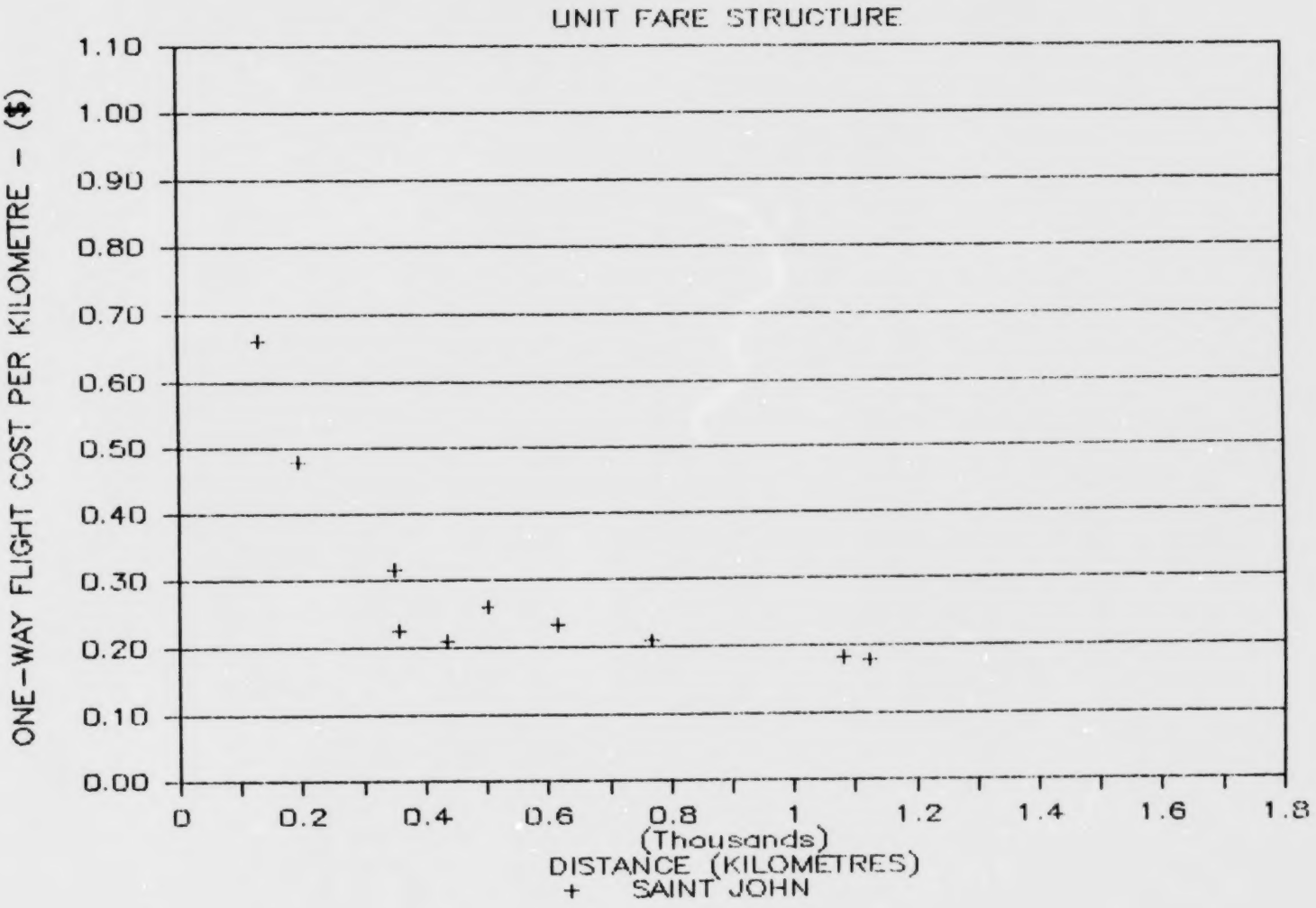

UNIT FARE STRUCTURE
ONE-WAY FLIGHT COST PER KILOMETER - ($)
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
(Thousands)
DISTANCE (KILOMETRES)
FREDERICTON

FIGURE 3.30


UNIT FARE STRUCTURE
ONE-WAY FLIGHT COST PER KILOMETRE - ($)
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
(Thousands)
DISTANCE (KILOMETRES)
+ SAINT JOHN

5	Fredericton
6	Saint John
7	Charlottetown
8	Halifax
9	Sydney
10	Yarmouth
11	St. John's
12	Montreal
13	Toronto
14	Ottawa

Table 3.9 provides a summary of the modal fares between Moncton and each of these destinations. The results of the fares available for one-way passage between Moncton and each of the above noted locations are also illustrated in Figure 3.31. This figure clearly indicates the fact that for several of the cities included in the list, there is currently no air service.

It is also evident from review of Figure 3.31 that the bus and rail fares are comparable in magnitude. However, typically the air fares are substantially greater than either of the two public surface transportation modes or the private automobile. Generally the difference between fares for the rail and bus modes is in the 10 to 20 percent range, with bus being the least expensive.

The distinct advantage of utilizing air over automobile for long distance travel can be seen in Table 3.9. Within the Maritime provinces, travel by automobile is less expensive than air, and in many cases, substantially less expensive. As travel distance increases, air travel becomes cheaper. This is shown for trips to St. John's, Montreal, Ottawa and Toronto. It should be noted that the values in Table 3.4 are for one passenger only. With automobile, the more individuals in the vehicle, the less expensive the trip.

FIGURE 3.31

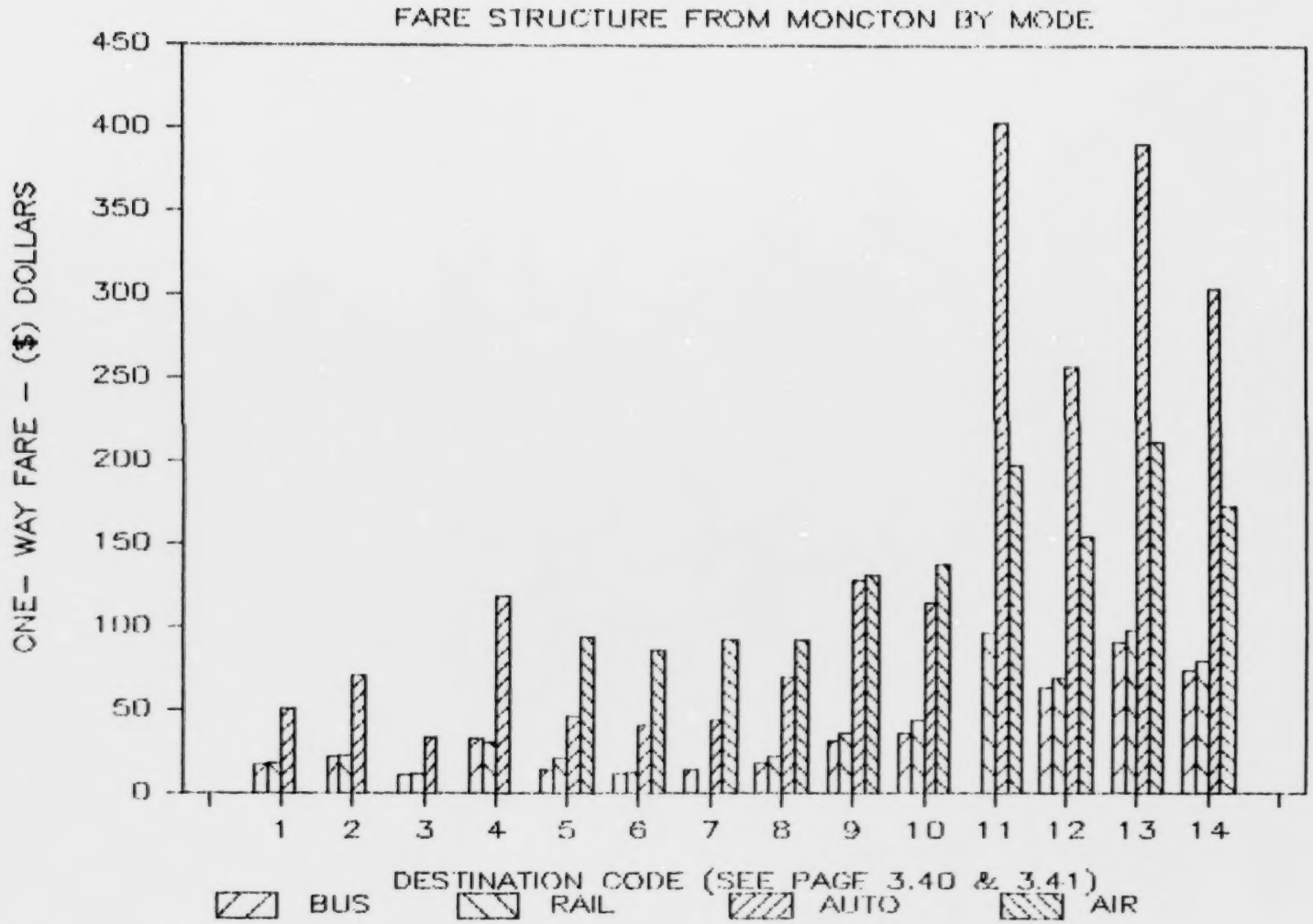

FARE STRUCTURE FROM MONCTON BY MODE
ONE- WAY FARE - ($) DOLLARS
450
400
350
300
250
200
150
100
50
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14
DESTINATION CODE (SEE PAGE 3.40 & 3.41)
BUS
RAIL
AUTO
AIR

Table 3.9

ONE-WAY FARE STRUCTURES BETWEEN MONCTON AND VARIOUS LOCATIONS BY BUS, RAIL, AUTO AND AIR

City	Mode			
	Bus	Rail	Auto*	Air**
1. Bathurst	$17.35	$18.00	$51.00	
2. Charlo	$21.65	$23.00	$71.00	
3. Chatham	$10.95	$12.00	$34.00	
4. Edmundston	$33.25	$31.00	$118.00	
5. Fredericton	$14.40	$21.00	$46.75	$93.74
6. Saint John	$11.45	$13.00	$41.00	$86.11
7. Charlottetown	$14.00		$44.00	$92.65
8. Halifax	$18.00	$22.00	$71.00	$92.65
9. Sydney	$31.35	$36.00	$128.00	$130.80
10. Yarmouth	$36.35	$44.00	$114.00	$137.34
11. St. John's		$96.50	$403.00	$197.29
12. Montreal	$64.00	$69.00	$256.00	$153.69
13. Toronto	$91.00	$98.00	$391.00	$211.46
14. Ottawa	$74.00	$80.00	$304.00	$172.22

* Based on 25 cents per kilometre.

** The air fare includes the 9% air transportation tax.

This preliminary review of fare structures for air and the competing surface transportation modes provides a basis for subsequent evaluation in Phase Four relating to the assessment of future market potential for air service. Obviously, the opportunity for potential air service is dependent on a combination of factors. One of which includes the inter-relationship between the cost of air service and the cost of competing surface modes. Another important factor is the travel time.

Generally, the private vehicle can compete favourably with air with respect to travel time up to distances of 240 kilometres. By private automobile this is approximately a 2 1/2 to 3 hour trip. By air, including access time to and from the airport, check in time and baggage handling, a similar trip would approach 2 1/2 hours. As illustrated by Table 3.9, the cost of a 240 kilometre trip by automobile is $60.00 while a comparable trip by air is approximately $90.00. Thus a 240 kilometre auto trip, which is a relatively common maximum distance between many major regional centres is comparable in travel time to air and less expensive. This makes it very difficult for local air service airlines to develop any significant air passenger market. This is reflected in the demand estimates summarized in Chapter 6.0.

4.0 EVALUATION OF THE EXISTING DEMAND PATTERNS

4.1 Introduction

This chapter provides an overview of the existing activity level at Moncton Airport in terms of the actual utilization of the scheduled services provided by the two air carriers. This utilization information is critical to development of future air service improvement options.

The information included in this chapter involves a review of historical trends in activity for total enplaned and deplaned passengers. As well, a discussion of the primary origin - destination patterns for passenger activity is included. The seasonal fluctuations in air passenger activity are reviewed as well. Where available, information regarding load factors is included. This is supplemented with a review of general trends in air cargo and air mail movements.

In addition to the basic information associated with passenger activity at Moncton, a general comparitive overview is made with other cities throughout Eastern Canada.

4.2 Historical Trends in Airport Activity at Moncton Airport

Unless otherwise noted, the information described in this chapter was provided by the Atlantic Region Office of Transport Canada. The information contained herein represents the official Transport Canada statisics for the various parameters summarized.

The data describing total enplaned and deplaned passengers at Moncton are based on a 100 percent lift of air carrier tickets. However, information relating to the origin and destination patterns is based only on a ten percent sample of the tickets. Consequently, the reliability of overall estimates for the origin - destination data is substantially less accurate than that for the total enplaning and deplaning passengers. This is particularly true of relatively small airports such as Moncton. More importantly, the level of error is substantially greater when dealing with

origin - destination pairs between a small airport like Moncton and other small (or even smaller) airports throughout the Atlantic Region. Consequently, comparisons between the annual totals derived from the origin - destination statistical data and the overall totals included in the enplaned-deplaned data base may vary by 20 to 40 percent as a result of these sampling differences.

The long term historical trend for the total revenue passenger activity at Moncton is illustrated in Figure 4.1. This figure illustrates the total number of revenue passengers enplaning and deplaning scheduled air service at Moncton for the period 1963 to 1983. The information illustrated in this chart provides an indication of an overall long term growth trend which has exhibited substantial flucuations during this period. In particular there have been significant downward trends in the late 1960s and again in the midportion of the 1970s, with a minor recovery during the years 1979 and 1980. However, a peak occured in 1980 with a consistent downward trend occuring between 1981 and 1983.

This type of enplaned and deplaned activity is similar to all airports in the Atlantic Region. The reasons for the decline in 1982 and 1983 include the general economy, which reduced the propensity to travel, and the EPA strike in 1983. Recent Transport Canada forecasts indicate that the peak 1980 volumes probably will not be reached again until the late 1980's.

This information has been analyzed in substantially more detail in the recently completed New Brunswick Area Aviation Master Plan and the Moncton Airport Master Plan - 1983. These documents have also analyzed a breakdown of the activity at Moncton Airport in terms of aircraft type. The trends which are inherent in the passenger activity statistics illustrated in Figure 4.1 are also evident in other types of aircraft activity at Moncton Airport.

Figure 4.2 illustrates the seasonal variation in passenger activity at Moncton Airport for the last full year available that is free from abnormal characteristics. Although these data are available for 1983,

FIGURE 4.1

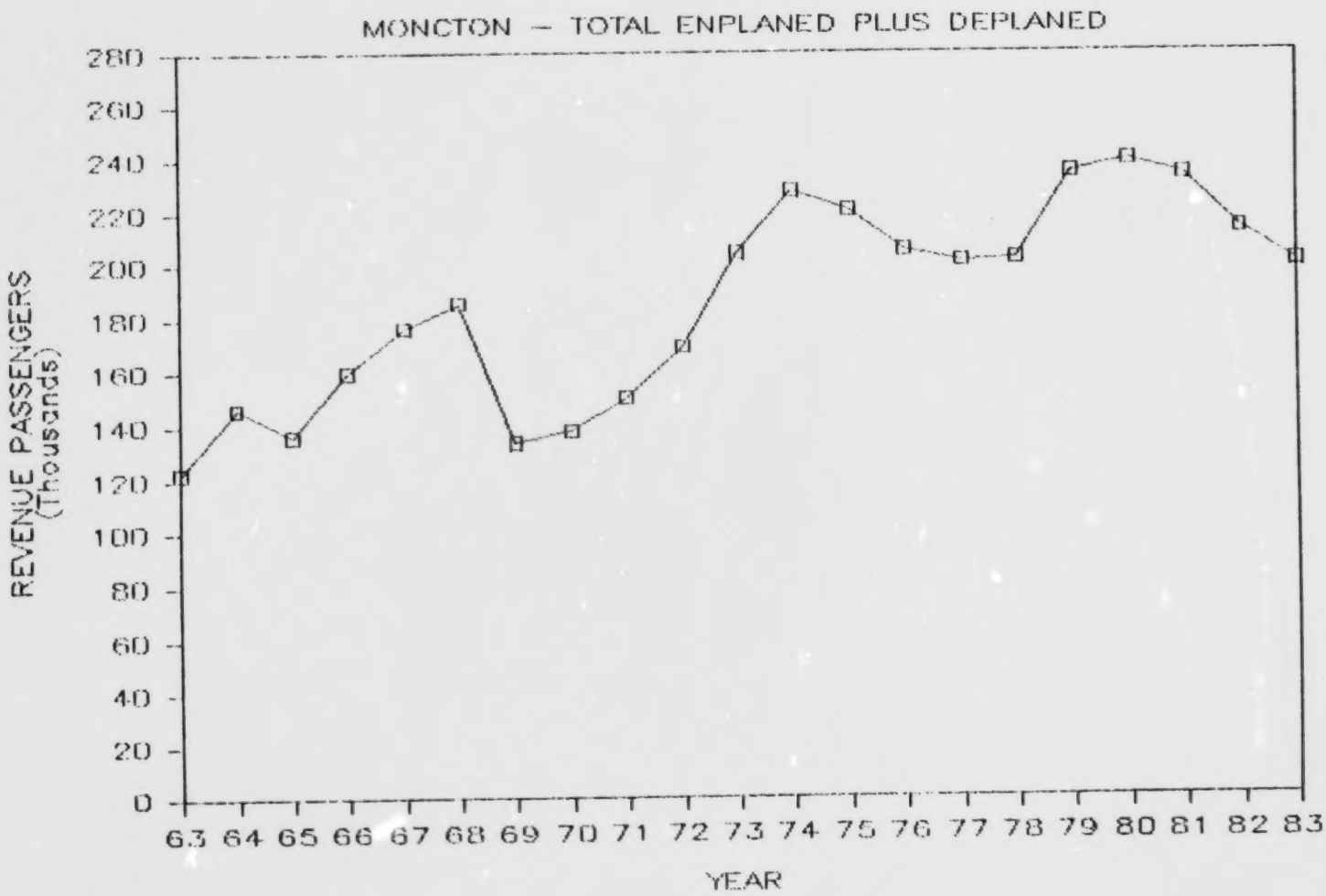
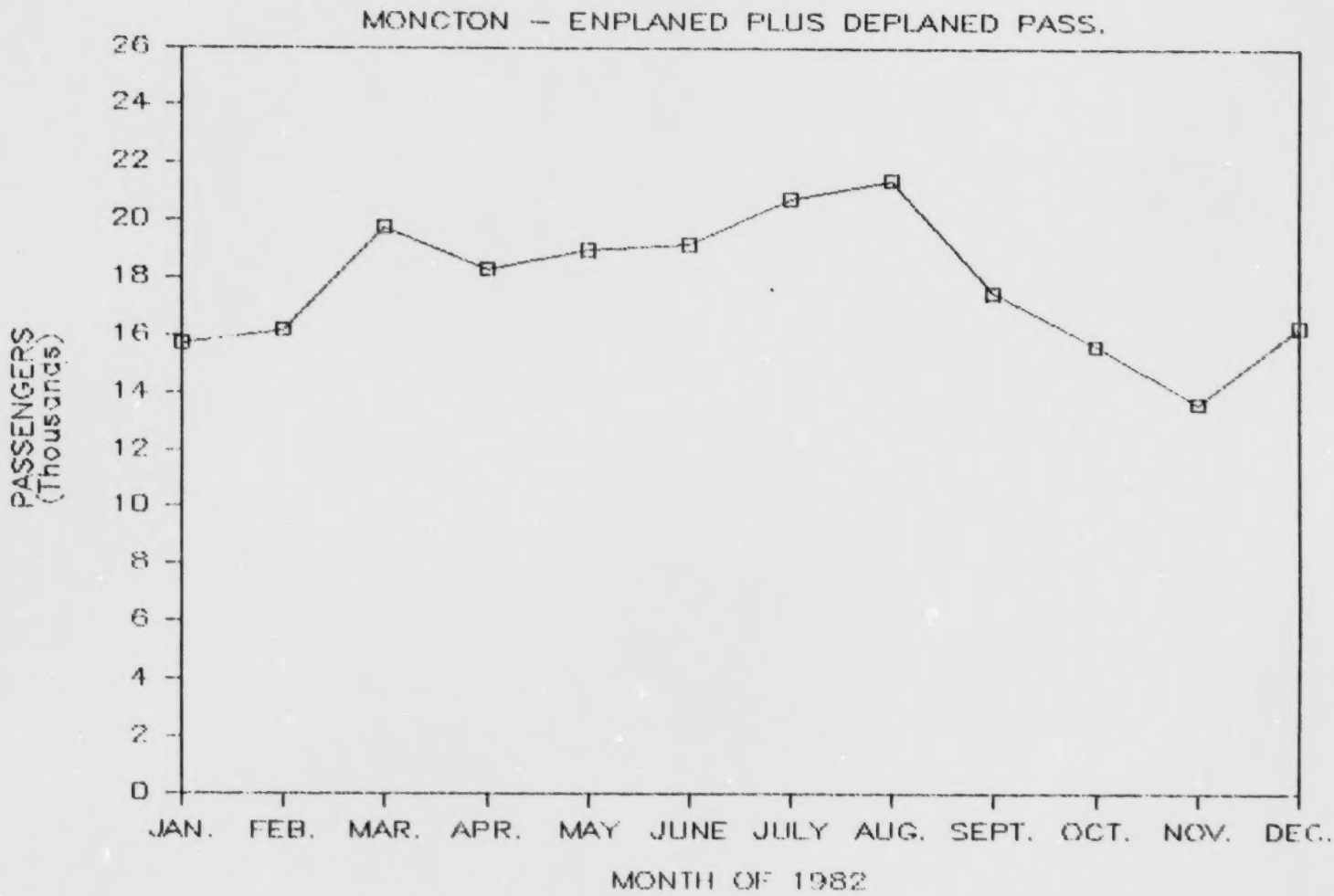

MONCTON – TOTAL ENPLANED PLUS DEPLANED
REVENUE PASSENGERS (Thousands)
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83
YEAR

FIGURE 4.2


MONCTON – ENPLANED PLUS DEPLANED PASS.
PASSENGERS (Thousands)
26
24
22
20
18
16
14
12
10
8
6
4
2
0
JAN.
FEB.
MAR.
APR.
MAY
JUNE
JULY
AUG.
SEPT.
OCT.
NOV.
DEC.
MONTH OF 1982

they are not representative because of a strike which substantially affected Eastern Provincial Airway's activities during that year. Consequently, additional specific evaluation of the passenger activities at Moncton has been based on 1982 data.

As illustrated in Figure 4.2, the volume of total enplaned and deplaned passenger activity at Moncton is reasonably stable throughout most of the year. There is a definite peaking in July and August and a drop during the fall period with an increase again at Christmas. This is followed by a continuing low level of activity during January and February. The vacation activity is evident by the slight peaking in traffic demand during the month of March. This drops off somewhat again in April after which there is a gradual increase over the five-month period from April to August.

It is relevant to note that the distribution of demand is approximately equal in the inbound and outbound directions. Evaluation of the Air Canada data for 1984 indicates that the total enplaning and deplaning volumes are 50.6 percent and 49.4 percent respectively for the yearly total.

Figures 4.3 and 4.4 illustrate the monthly variations in load factors for Air Canada's service during the calender year 1984. The general peaking characteristics are essentially the same for the enplaning and deplaning activities. The peak period occured during July and August when the load factors were in excess of 82 percent, with the maximum being close to 95 percent for the enplaning activity during the month of August. The low season occurs during January and February. During this period the enplaning load factors were about 60 percent while the deplaning load factors were at about 56 percent. For the rest of the shoulder period during fall and spring, the load factors tend to run in the low to mid 70 percent range. The winter/spring vacation activity also is indicated by the slightly higher load factor of 75 to 76 percent during the month of March.

FIGURE 4.3

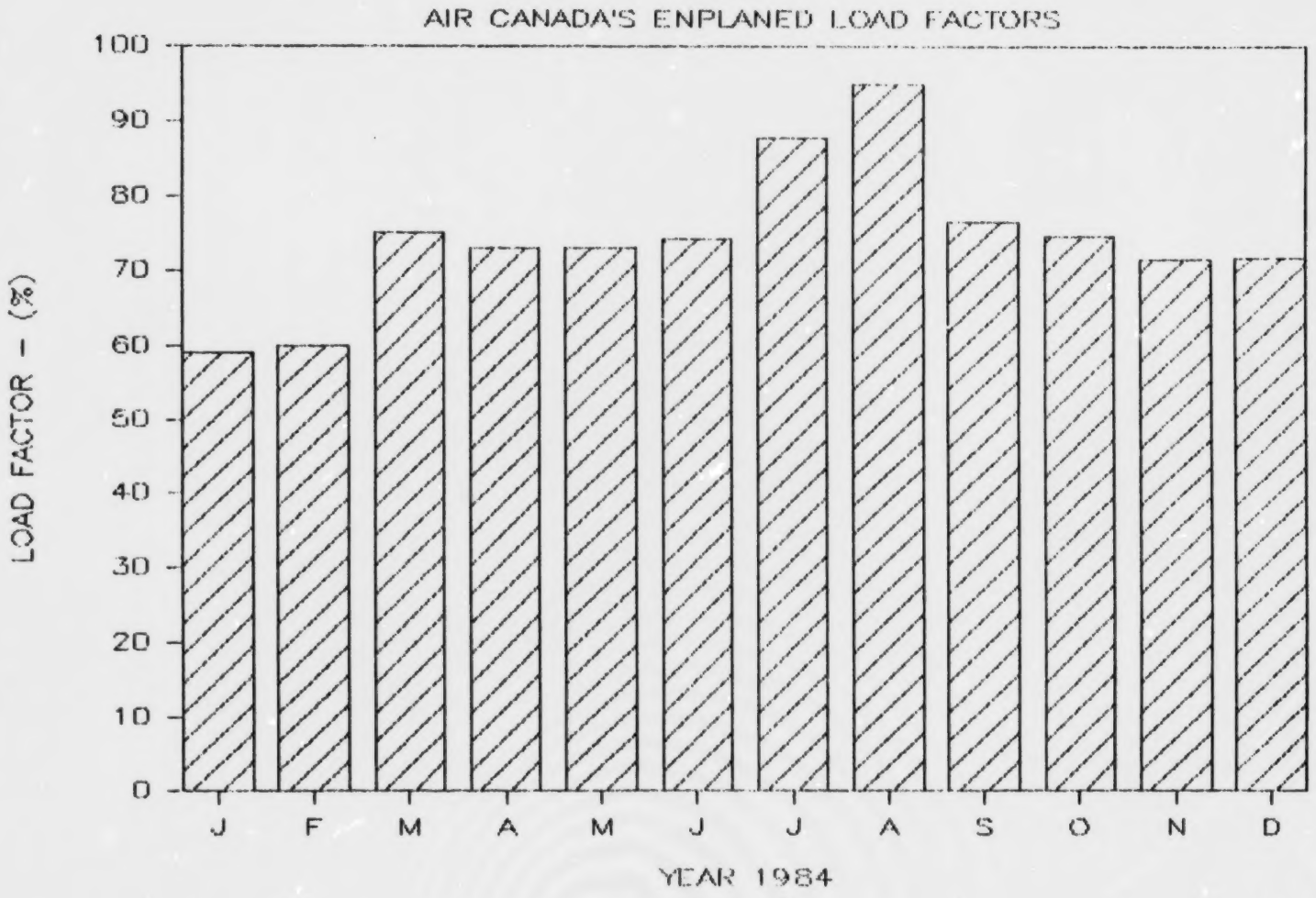
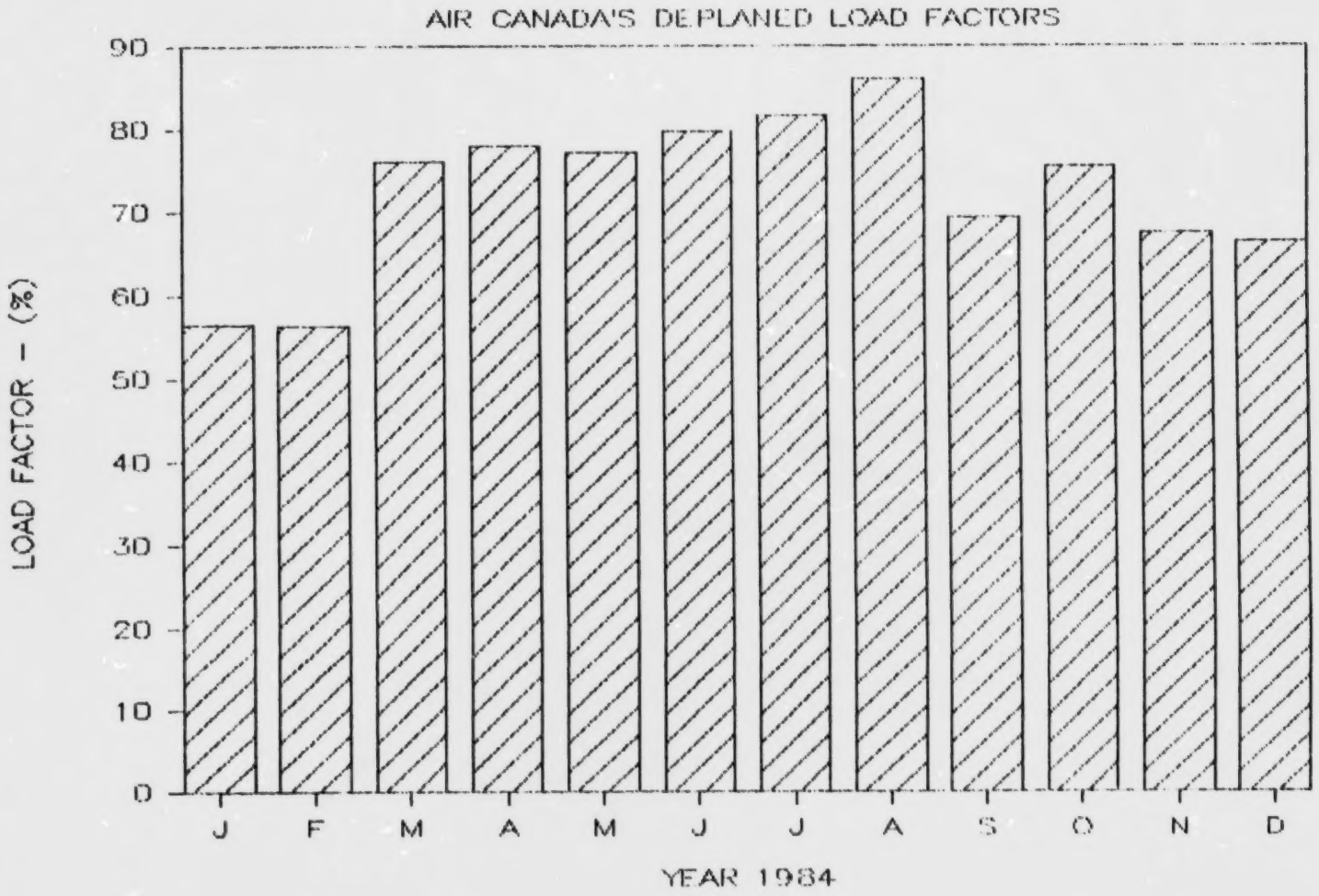

AIR CANADA'S ENPLANED LOAD FACTORS
LOAD FACTOR - (%)
100
90
80
70
60
50
40
30
20
10
0
J
F
M
A
M
J
J
A
S
O
N
D
YEAR 1984

FIGURE 4.4


AIR CANADA'S DEPLANED LOAD FACTORS
LOAD FACTOR - (%)
90
80
70
60
50
40
30
20
10
0
J
F
M
A
M
J
J
A
S
O
N
D
YEAR 1984

It might be noted that the load factors achieved on the Moncton service by Air Canada are probably as close to optimum as possible, without resulting in substantial delays to Moncton related passengers wishing to make reservations.

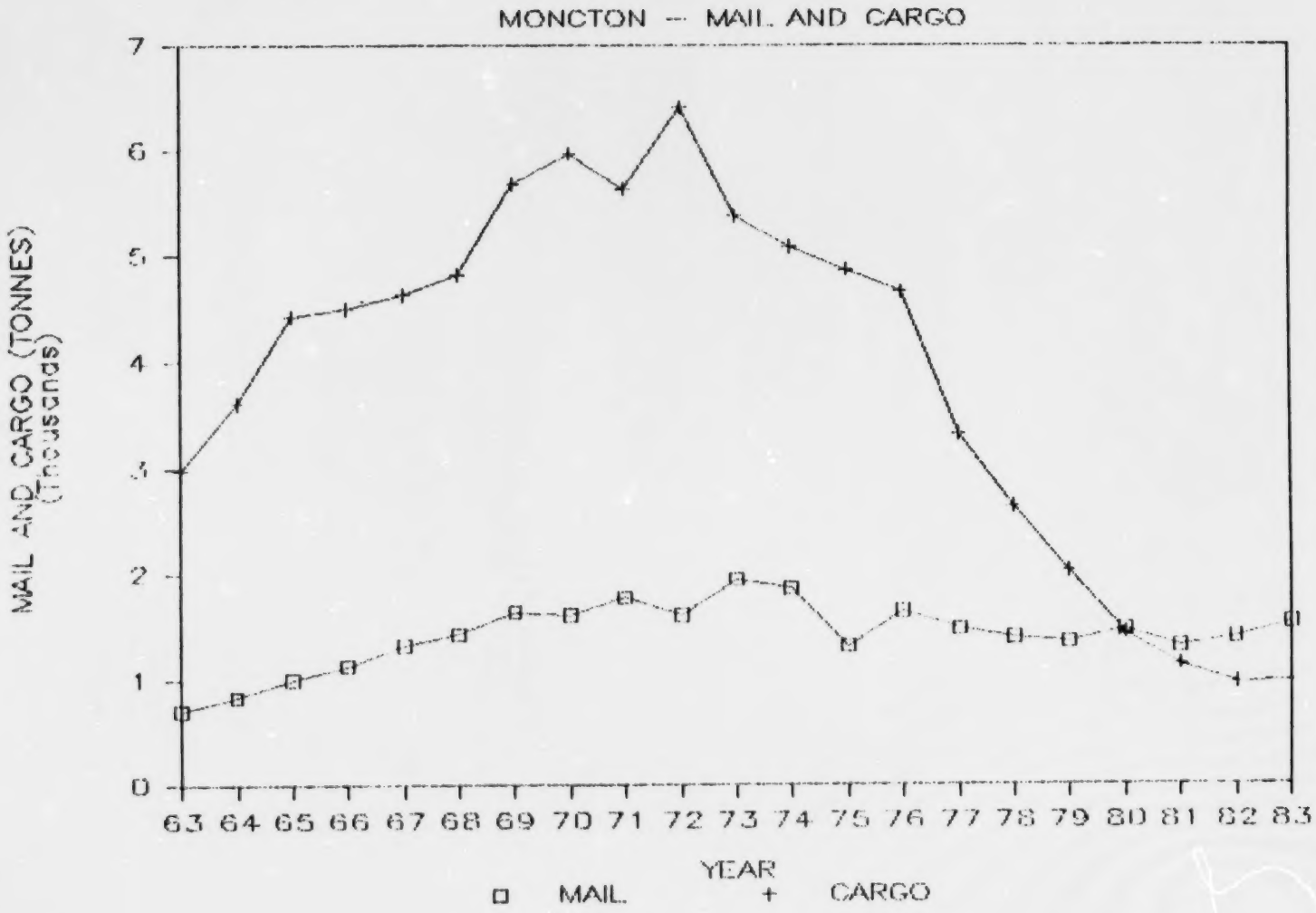
Figure 4.5 illustrates the historical trends in the mail and air cargo activities at Moncton airport. These functions have both shown a general downward trend since the early 1970's. However, in the long term (ie. 20 year period) there has been a gradual upward swing in the tonnage of mail handled at Moncton. Although there are no statistical data available, it is anticipated that the poor performance of these airport activities has been compensated by the increase in small package (courier) activity. This type of service has expanded rapidly during the past decade. Since the carrier activity is in direct competition (or substitution) for mail, it obviously has counter-balanced the apparent decline in mail tonnage to some extent.

4.3 Origin - Destination Patterns

Subsequent to the initial review of historical trends in air service activity at Moncton, efforts were directed at identifying the distribution patterns for passenger traffic arriving and departing Moncton airport. The only source of origin - destination patterns at Moncton airport is the estimates prepared by Statistics Canada. As noted earlier, these estimates are based on a 10 percent sample of tickets lifted by the air carriers. Although the aggregate totals resulting from this sample are not as accurate as would be the case at larger airports, they provide the only basis for estimating travel patterns and identifying existing demand.

The most recent year which these data are available is 1983. However, Eastern Provincial Airways experienced a strike for a substantial period of time during that year. Rather than utilize the 1983 data which is obviously distorted significantly from the strike activities, the 1982 Statistics Canada data were utilized to determine an overview of the origin - destination patterns for Moncton related passenger traffic.

FIGURE 4.5


MONCTON -- MAIL AND CARGO
MAIL AND CARGO (TONNES)
(Thousands)
0
1
2
3
4
5
6
7
63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83
YEAR
MAIL
CARGO

The enplaning and deplaning data for Moncton are summarized in Table 4.1. The information included in Table 4.1 summarizes the estimated volume of enplaning and deplaning passengers between Moncton and each of the cities listed. The cities are listed in order of descending magnitude of passenger activity. Figures 4.6 and 4.7 illustrate the respective columns of data for the enplaning and deplaning passengers summarized in Table 4.1.

It is evident that there is a general balance between the amount of passenger traffic to and from each of the cities illustrated in these figures. To a certain extent, some of the balancing results from the rounding off which occurs in the sampling process carried out by Statistics Canada. Nonetheless, the general characteristics of a high degree of balance in inbound and outbound passenger activity relating to specific cities is normal.

It is also evident from Figures 4.6 and 4.7 that the vast majority of the existing traffic activity is between Moncton and Toronto, Montreal and Ottawa. The next level of activities occurs on the links between Moncton and St. John's, Halifax, Calgary and Edmonton.

Various other cities have also shown up in the origin - destination patterns when the data for Moncton were examined. However, all other cities had a lower volume of passenger activity than those illustrated in Figures 4.6 and 4.7.

4.4 Typical Passenger Generation Rates

The existing passenger activity at Moncton was compared with a number of other cities throughout Canada. This initial comparison involved the generation per capita passenger activity rates for a total of 14 cities including Moncton. This analysis was based on Statistics Canada population information for 1981 and the Statistics Canada estimates of total enplaned and deplaned traffic at the respective cities. The information utilized in this preliminary evaluation of the propensity for air travel is summarized in Table 4.2.

FIGURE 4.6

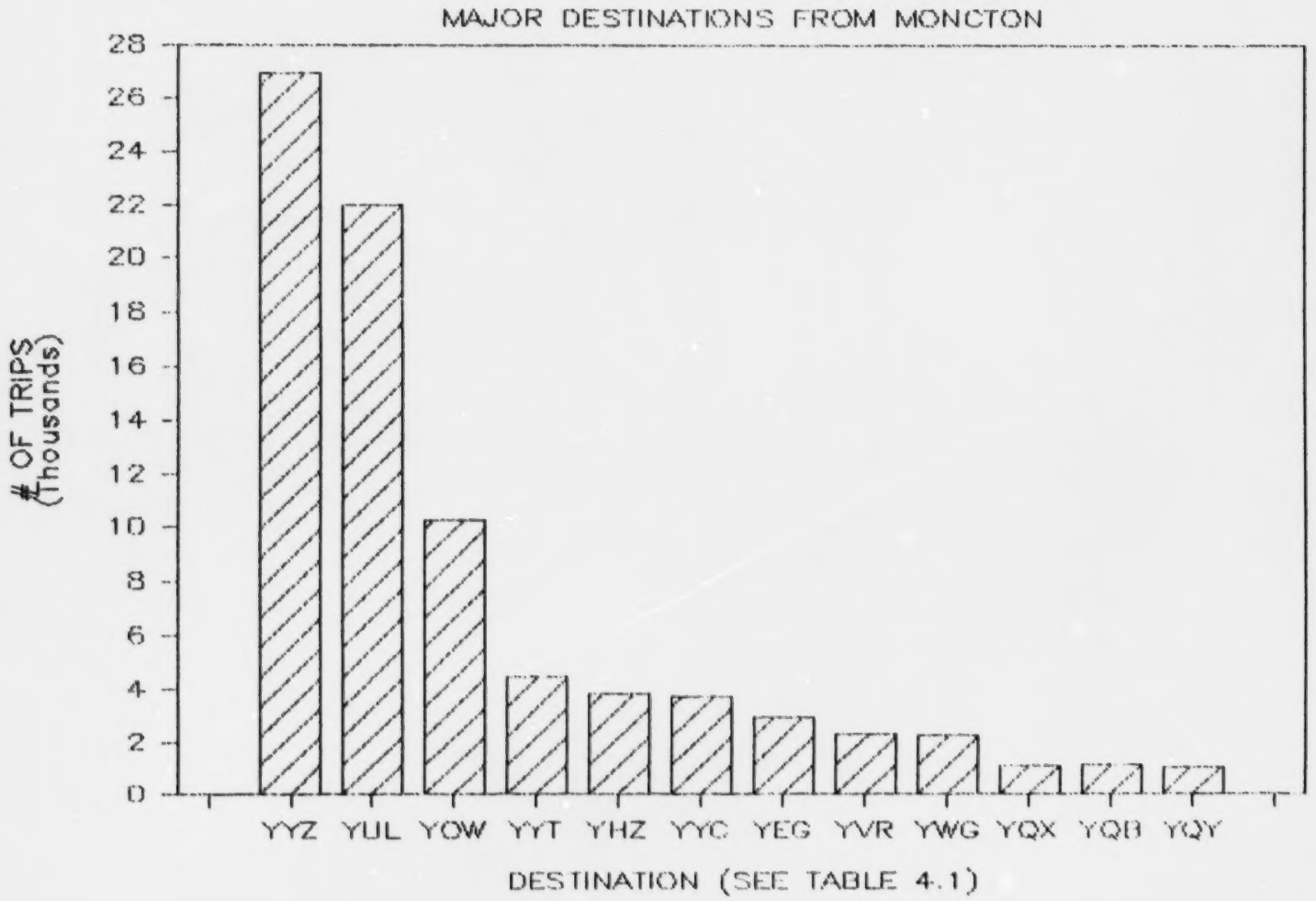

MAJOR DESTINATIONS FROM MONCTON
OF TRIPS (Thousands)
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
YYZ
YUL
YOW
YYT
YHZ
YYC
YEG
YVR
YWG
YQX
YQB
YQY
DESTINATION (SEE TABLE 4.1)

FIGURE 4.7

MAJOR ORIGINS FOR MONCTON

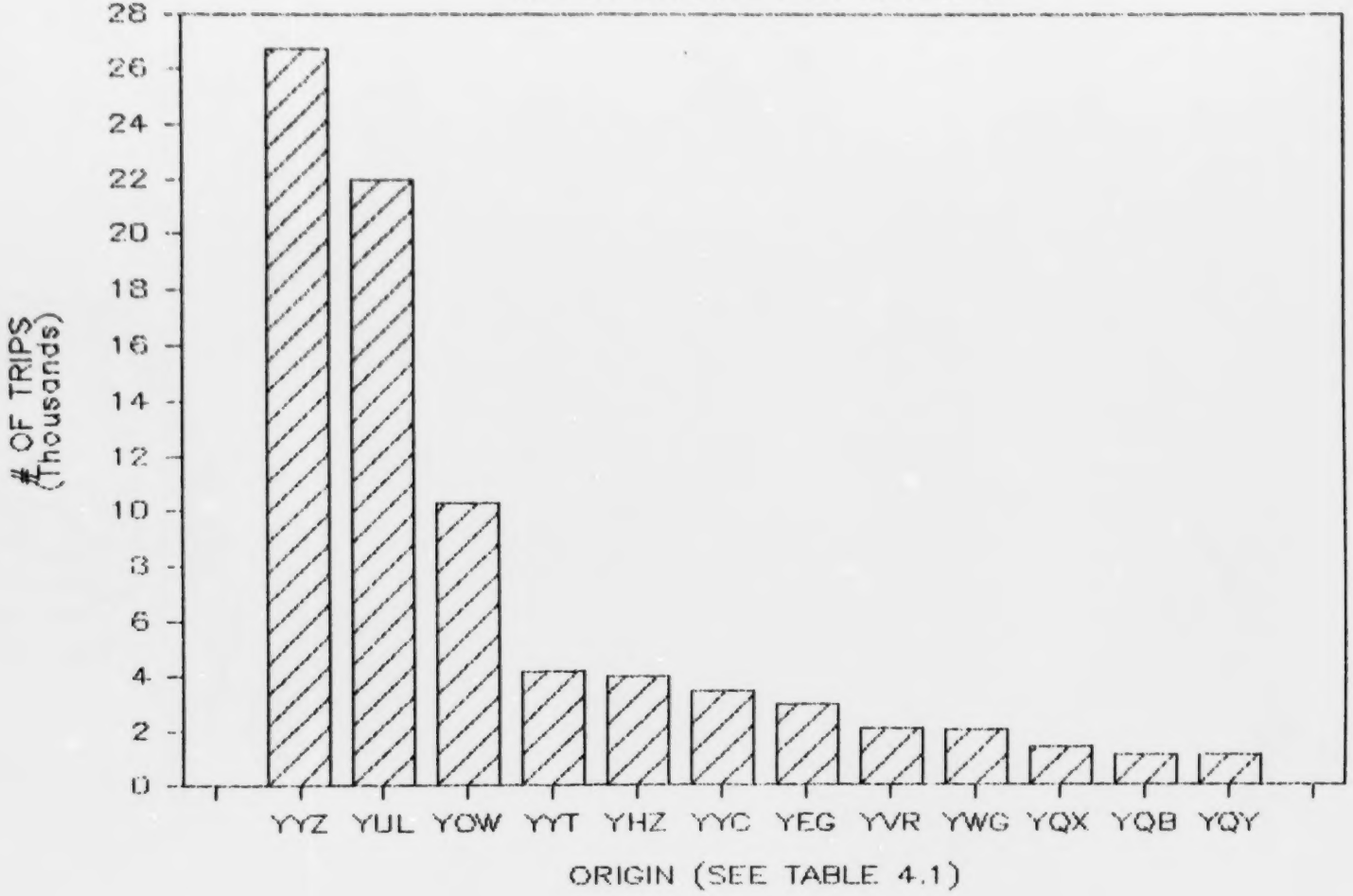


Table 4.1

1982 STATISTICS CANADA ENPLANED AND DEPLANED VOLUMES FOR MONCTON

City	Code	Total Revenue Passengers	
		Enplaned (destined to)	Deplaned (originating from)
Toronto	YYZ	26 940	26 740
Montreal	YUL	21 970	21 970
Ottawa	YOW	10 250	10 250
St. John's	YYT	4 490	4 170
Halifax	YHZ	3 840	3 960
Calgary	YYC	3 750	3 430
Edmonton	YEG	2 930	2 960
Vancouver	YVR	2 320	2 040
Winnipeg	YWG	2 270	2 000
Gander	YQX	1 070	1 380
Quebec City	YQB	1 100	1 060
Sydney	YQY	1 000	1 050

Table 4.2

AIR PASSENGER GENERATION RATES

City	Population		1981 Passengers			Per Capita Generation Rates		
	Code*	Number	Enplaned	Deplaned	Total	Enplaned	Deplaned	Total
1. Charlottetown	CA	45 000	62 170	61 470	123 640	1.38	1.37	2.75
2. Fredericton	CA	64 000	76 630	73 420	150 050	1.20	1.15	2.34
3. Moncton	CA	98 000	95 750	93 490	189 240	0.98	0.95	1.93
4. Saint John	CMA	114 000	68 010	66 750	134 760	0.60	0.59	1.18
5. Halifax	CMA	277 000	422 160	422 440	844 600	1.52	1.53	3.05
6. Sydney	CA	87 000	71 580	67 940	139 520	0.82	0.78	1.60
7. St. John's, Nfld.	CMA	155 000	217 610	212 902	430 512	1.40	1.37	2.78
8. Sault Ste. Marie	CA	87 000	78 510	77 450	155 960	0.90	0.89	1.79
9. Sarnia	CA	84 000	9 650	10 380	20 030	0.11	0.12	0.24
10. Windsor	CMA	246 000	104 920	107 060	211 980	0.43	0.44	0.86
11. London	CMA	286 000	70 410	70 580	140 990	0.25	0.25	0.49
12. North Bay	CA	57 000	30 590	30 060	60 650	0.54	0.53	1.06
13. Thunder Bay	CMA	121 000	178 880	174 920	353 800	1.48	1.45	2.92
14. Sudbury	CMA	150 000	79 670	77 460	157 130	0.53	0.52	1.05

* CA = Census Agglomeration and CMA = Census Metropolitan Area. Both terms normally include general metropolitan areas (including suburban communities). The term CA is used for areas with a population less than 100 000 and CMA for larger areas.

It is critical to note that the population values included for the various municipalities are those provided by the Financial Post survey of markets. It is particularly important to emphasize that the populations shown in Table 4.2 are those associated with the census metropolitan areas (or Census Agglomerations) for the respective municipalities. For a more detailed analysis of the air passenger generation rates for each of these municipalities, it would be necessary to determine the populations of the total catchment area served by the respective airports. This has been completed and is discussed later in this chapter as well as in Chapter 6.0. However, the above noted initial overview provides a general indication of the relative degree of propensity to travel by air at the 14 municipalities listed in Table 4.2.

The data in Table 4.2 are illustrated in Figures 4.8 and 4.9. Comparing these two figures, it is evident that the air passenger generation rates are essentially identical for the enplaning and the deplaning movements.

Comparing the unit generation rates for the municipalities in the Atlantic Provinces (City Code 1 to City Code 7 inclusive) it is evident that the peak air passenger generation rates are associated with Charlottetown, Halifax and St. John's, Newfoundland. The lowest per capita air generation rate is associated with Saint John, New Brunswick. This is followed by Sydney, with Moncton being approximately in the middle of the range of per capita passenger generation rates for the seven Atlantic Provinces cities illustrated in these figures.

The per capita rates for the cities in Ontario are generally substantially less than those for the Atlantic Region cities. The only two cities which have unit passenger generation rates equal to or greater than that at Moncton are Saulte Ste. Marie and Thunder Bay. These municipalities are a comparable size and are more isolated from the larger metropolitan centres in Ontario than most of the other Ontario cities included in this general comparison.

FIGURE 4.8

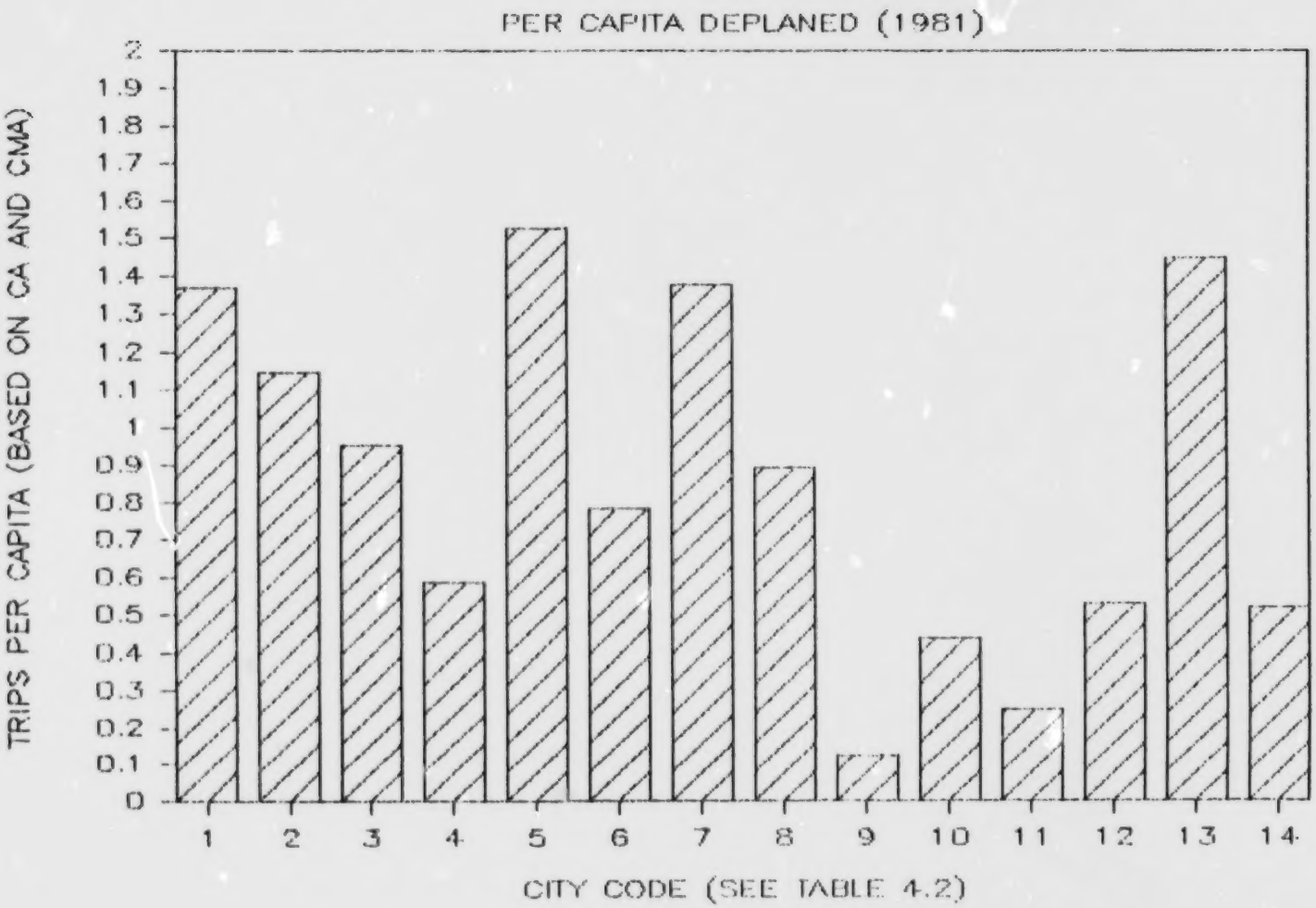
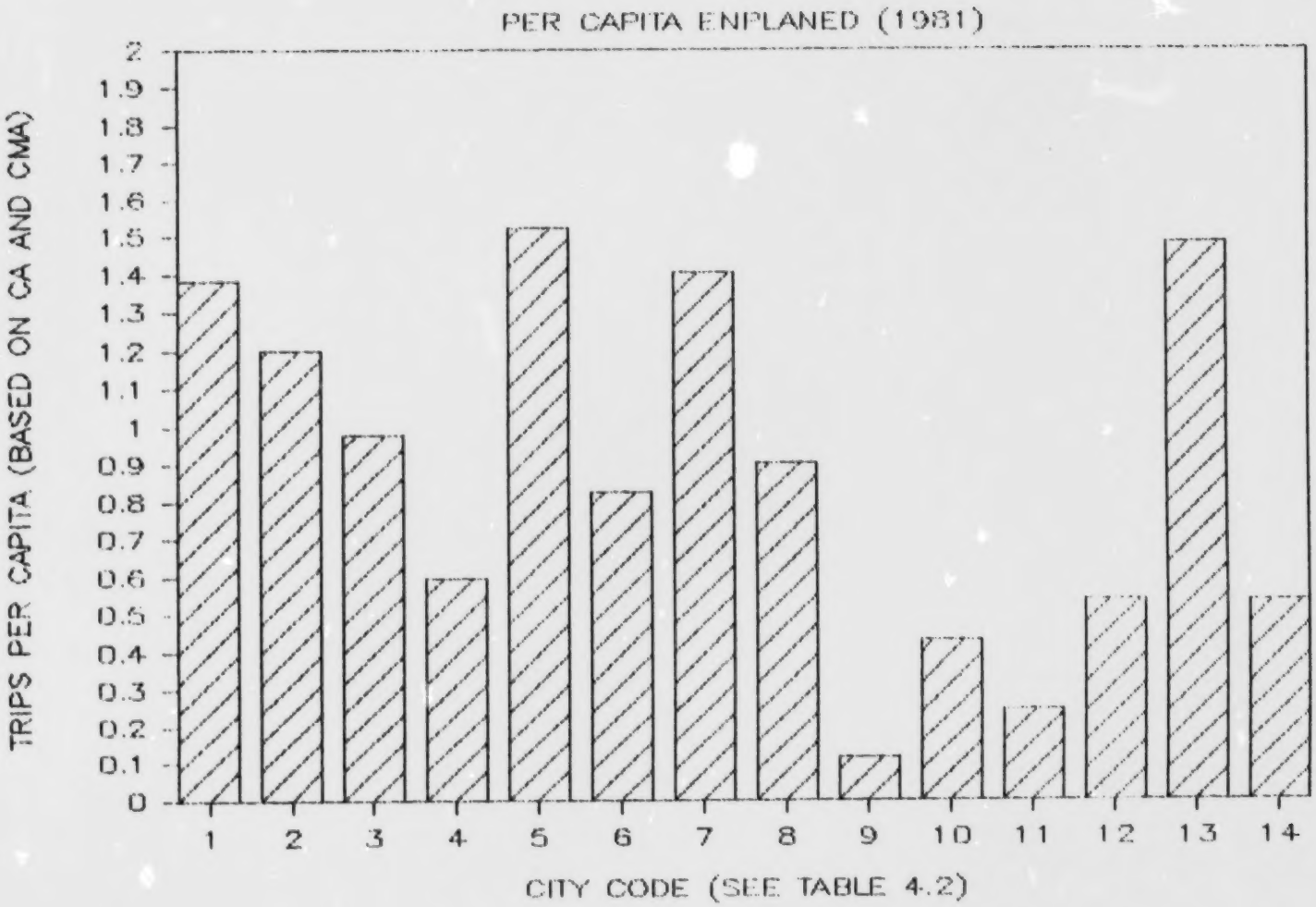

PER CAPITA DEPLANED (1981)
TRIPS PER CAPITA (BASED ON CA AND CMA)
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
CITY CODE (SEE TABLE 4.2)

FIGURE 4.9


PER CAPITA ENPLANED (1981)
TRIPS PER CAPITA (BASED ON CA AND CMA)
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14
CITY CODE (SEE TABLE 4.2)

In addition to the above noted initial air trip generation rates based on the general population of the metropolitan areas, a set of air trip generation rates for the Atlantic Region cities illustrated in Table 4.2 was also developed based on the airport catchment area populations. This is a more meaningful approach to generation rates because it includes consideration of the entire population in the catchment areas served by each airport. The population served by an airport is greater than that of the immediate metropolitan areas around the airport facilities. The airport catchment area also includes all the rural areas which would be dependant upon a specific airport and would use this airport for air travel.

The results of this more comprehensive analysis of the air trip per capita generation rates based on total catchment area populations are summarized in Table 4.3. These data are also illustrated in Figures 4.10 and 4.11. These figures illustrate reduced air trips per capita generation rates to those illustrated previously in Figures 4.8 and 4.9, respectively. However, it should be noted that the catchment area populations are larger for each airport that the metropolitan populations summarized in Table 4.2.

The observations which can be drawn from the results illustrated in these figures are:

a). The per capita air traffic generation rates based on catchment area populations are more consistent than those based simply on the general metropolitan area populations. This is particularly true for the New Brunswick airports included in the charts (city codes 2, 3 and 4).

b). The generation rates for the three New Brunswick airports (Fredericton, Moncton and Saint John) range from 0.40 to 0.47 trips per capita for enplaning traffic and 0.38 to 0.46 for deplaning traffic. For both types of traffic, the highest value in these ranges related to Moncton.

FIGURE 4.10

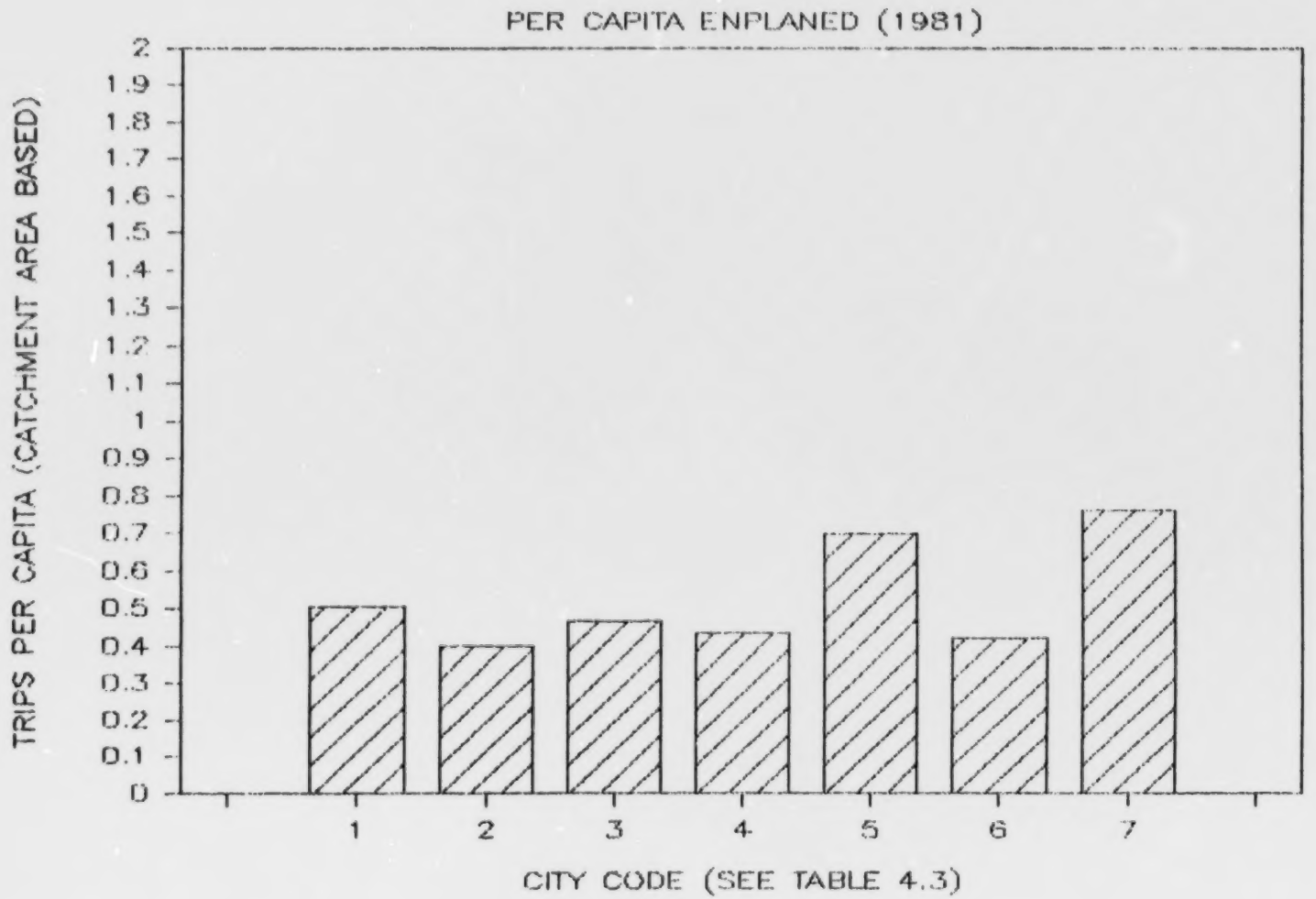

PER CAPITA ENPLANED (1981)
TRIPS PER CAPITA (CATCHMENT AREA BASED)
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1
2
3
4
5
6
7
CITY CODE (SEE TABLE 4.3)

FIGURE 4.11

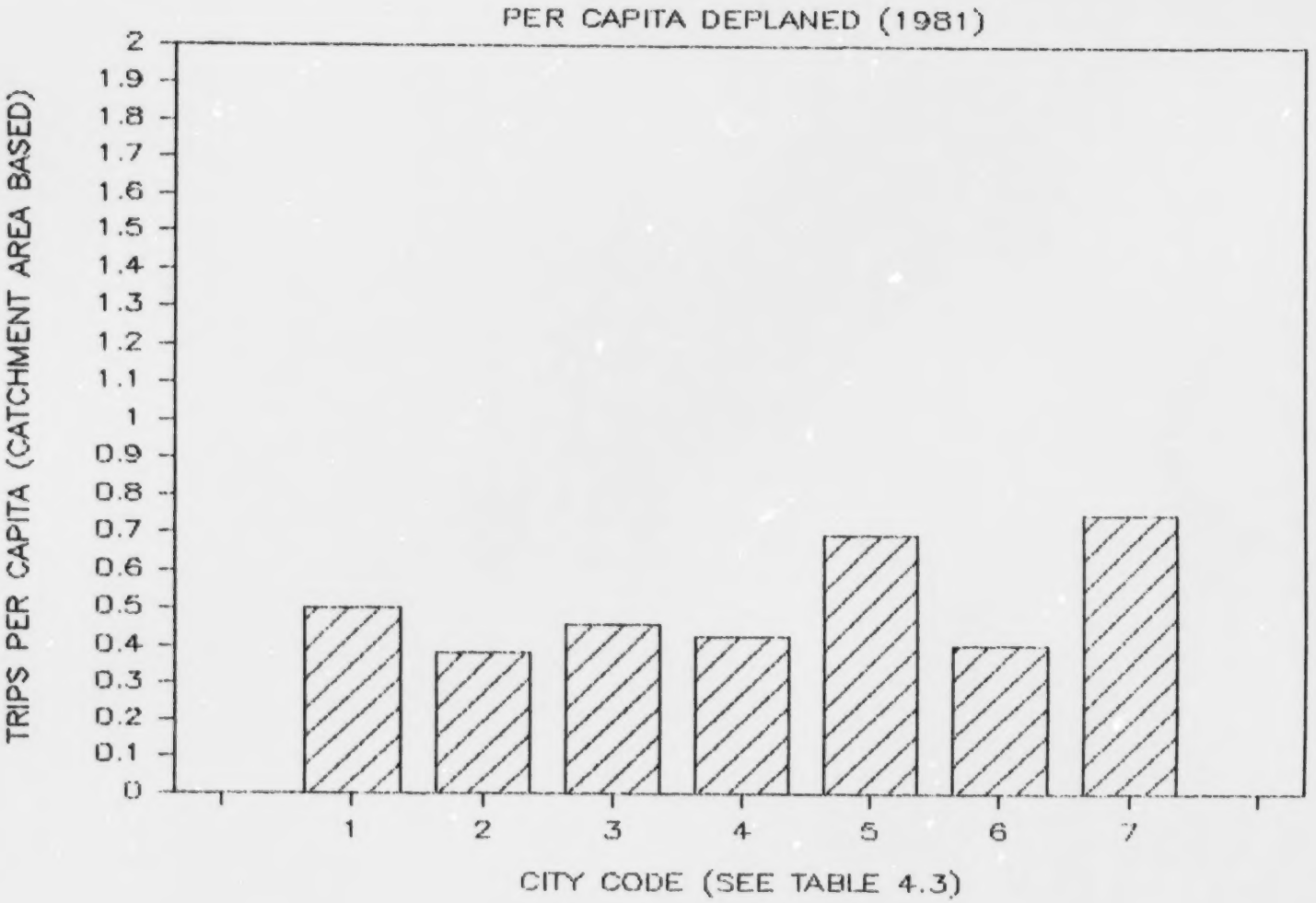

PER CAPITA DEPLANED (1981)
TRIPS PER CAPITA (CATCHMENT AREA BASED)
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1
2
3
4
5
6
7
CITY CODE (SEE TABLE 4.3)

Table 4.3

AIRPORT CATCHMENT AREA AIR PASSENGER GENERATION RATES

City	Catchment Area Population	1981 Passengers			Per Capita Generation Rates		
		Enplaned	Deplaned	Total	Enplaned	Deplaned	Total
1. Charlottetown	123 000	62 170	61 470	123 640	0.51	0.50	1.01
2. Fredericton	192 000	76 630	73 420	150 050	0.40	0.38	0.78
3. Moncton	205 000	95 750	93 490	189 240	0.47	0.46	0.92
4. Saint John	157 000	68 010	66 750	134 760	0.43	0.43	0.86
5. Halifax	577 000	402 410	398 410	800 820	0.70	0.69	1.39
6. Sydney	170 000	71 580	67 940	139 520	0.42	0.40	0.82
7. St. John's, Nfld.	286 000	217 610	212 902	430 512	0.76	0.74	1.51

c). The per capita air passenger generation rate for the Halifax airport is about 0.70. This is substantially higher than the values at the New Brunswick cities, possibly due to the major regional business functions which occur in Halifax and the hub operational aspects of the airport.

d). The slightly higher generation rate for Charlottetown traffic results in part from the increased degree of isolation associated with an island province.

e). The same isolation related factors, except to a larger degree, is a primary reason for the substantially higher rate for St. John's, Newfoundland.

5.0 EVALUATION OF POTENTIAL IMPACTS OF THE NEW NATIONAL AIR POLICY

5.1 Introduction

The new Canadian air policy, was initially announced in May 1984 by the then Minister of Transport, Honourable Lloyd Axeworthy. This was followed in July, 1985 by the Freedom to Move paper announced by the present Minister of Transport Canada, the Honourable Don Mazankouski, which created a new direction for the Canadian Airline Industry. The purpose of this chapter is to summarize the highlights of the two new air policies and to identify their potential implications for air services and air fares in Atlantic Canada.

5.2 The Canadian Airline Industry - An Overview

The Canadian Airline Industry is relatively concentrated, that is, a small number of carriers earn a large fraction of the total revenue earned by the industry. The dominant position of Air Canada in the industry, as reflected in Table 5.1, is an important consideration in any examination of air policy in Canada. Table 5.1 shows Air Canada's output measured in terms of available seat-kilometres in comparison with the other major national carrier, Canadian Pacific Airlines Ltd., two regional carriers, PWA, EPA and Ward Air, a chartered carrier.

The passenger airline industry is generally considered to be a mature industry. The double digit growth rate experienced during the 1960's and early 1970's have vanished. Figure 5.1 shows that air transport revenue as a percentage of gross national product has declined since 1981. The growth rate of an industry is an important determinant of the nature of competition in the industry. Clearly, the higher the growth rate, the greater the potential for new entrants. Furthermore, an industry experiencing little or no growth is likely to exhibit severe market share competition with inevititable pressures on profit margins.

TABLE 5.1

INDUSTRY STRUCTURE

	1983 Revenues ($millions)	1983 ASK[1] (billion)
AIR CANADA	$2 333.3	31.53
CP AIR	$1 000.0	13.20
PWA	$ 329.3	2.75
WARDAIR	$ 364.9	7.74
EPA[2]	$ 75.4	0.87

1 ASK - Available Seat-Kilometres

2 These values reflect the 1983 strike experienced by EPA

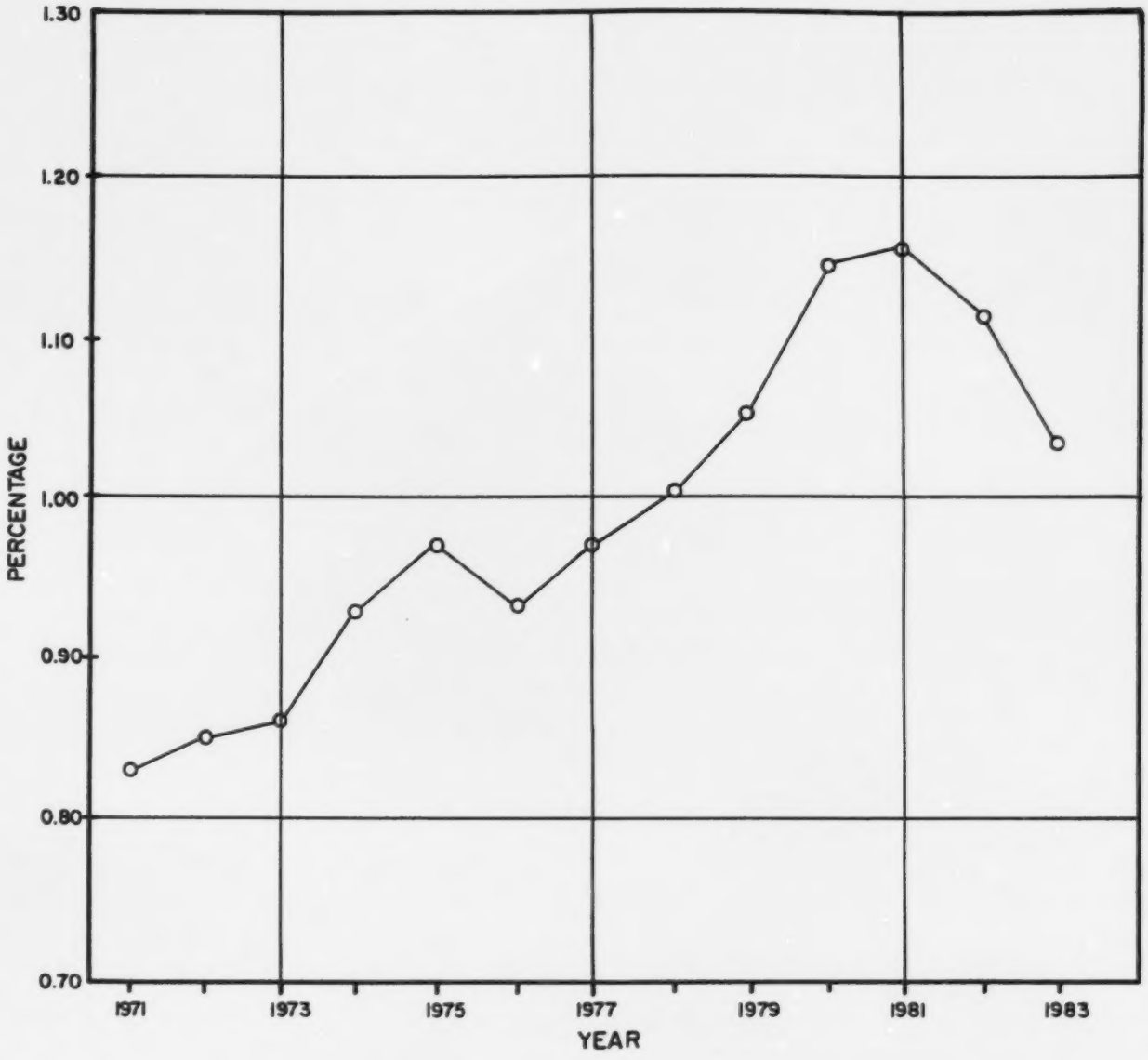


FIGURE 5.1: AIR TRANSPORTATION REVENUE AS A PERCENT OF GROSS NATIONAL PRODUCT

Sources:

(1) Aviation Statistics Centre - Statement 21 - Statement of Income - 1983 Preliminary

(2) Research Branch, CTC, "Equipment and Fleet Planning in the Canadian Airline Industry", August 1982, WP No. 10-32-05

(3) Statistics Canada Publications, Catalog No. 11-003E, No. 13-004E

(4) Wardair International Annual Report 1983

Tables 5.2 and 5.3 show the financial performance and condition of the Canadian Airline Industry. In Table 5.2 it is evident that for most carriers, return of investment has not been impressive particularly during the last couple of years. Again, this raises questions about the attractiveness of this industry to potential new entrants. Table 5.3 shows that this is an industry which relies very heavily on long term debt for its financing. As a consequence even though operating margins may be positive, non-operating expenses such as interest charges are having a major impact on the bottom line. The data in this table also suggest that some carriers are not particularly well positioned from a financial point of view for de-regulation. Their debt loads are excessive and their working capital position has eroded. Therefore, they may be somewhat constrained in their ability to respond to market conditions.

The airline industry features several distinct economic characteristics. A significant proportion of total operating costs for an airline are fixed in the short term. The variable cost per passenger is low in relation to fixed cost. The industry is very sensitive to economic conditions, thereby producing a very cyclical earnings stream. Capacity in the industry tends to be added in large increments. In combination, these factors tend to create periods of instability in the industry characterized by a high propensity to discount fares. This begs the question as to why fare discounting has only been pervasive during the last few years. The explanation lies in the fact that the industry had been growing so rapidly that carriers could barely keep up with the growth of full fare passenger traffic. Hence there was no need to engage extensively in discounting to stimulate the discretionary travel market.

Another significant economic characteristic of the airline industry is its substantial operating leverage. In other words, a very small percentage reduction in unit operating costs or an increase in yield (cents per revenue passenger-kilometre) has a major impact on the bottom line. To illustrate this point Air Canada's operation in 1983 generated 31.53 billion available seat-kilometres. Hence, a fraction of a cent change in yield per available seat kilometer can have a major impact on financial performance.

TABLE 5.2

RETURN ON INVESTMENT* (percent)

Carrier	Year					
	1978	1979	1980	1981	1982	1983
Air Canada	9.4	9.7	9.2	8.0	2.3	5.7
CP Air	17.8	11.8	7.7	4.1	3.3	3.4
Wardair	8.1	5.3	13.6	5.6	5.6	9.0
PWA	7.0	10.5	10.0	13.2	8.5	7.8
Nordair	22.5	9.2	11.5	12.0	1.6	14.5
EPA	19.6	11.4	10.3	21.2	10.9	1.3
Quebecair	10.7	8.0	4.7	.7	(11.3)	(26.4)
Industry Total	10.3	9.6	9.5	7.8	3.4	5.2

* Defined as (net income + interest on long term debt) - average total invested capital.

Sources:

(1) Airline Annual Reports for Air Canada, CP Air, PWA, Nordair, and Wardair.

(2) Statistics Canada Publication, Catalogue No. 51-206 and Aviation Statistics Centre - Statement 21 for EPA and Quebecair.

TABLE 5.3

4 MAJOR AIRLINES: SELECTED INDICATORS
OF FINANCIAL PERFORMANCE

	1978	1979	1980	1981	1982	1983
OPERATING INCOME MARGIN* (%)						
Air Canada	6.4	6.3	4.7	3.2	(1.1)	1.2
CP Air	9.4	6.1	3.2	(.4)	(3.1)	(.2)
PWA	6.7	6.9	7.8	8.3	7.8	8.2
Wardair	3.2	5.6	16.7	9.2	2.0	7.4
NET INCOME MARGIN** (%)						
Air Canada	3.6	3.4	3.0	1.8	(1.4)	.2
CP Air	4.5	2.9	1.0	(2.1)	(4.1)	(1.5)
PWA	4.3	6.4	4.9	5.8	1.9	3.4
Wardair	-	(4.7)	2.7	(3.5)	(3.8)	(.8)
RETURN ON EQUITY*** (%)						
Air Canada	20.4	12.6	11.9	7.8	(6.5)	0.8
CP Air	52.5	19.8	7.0	(17.0)	(39.3)	(6.3)[2]
PWA	25.0	31.0	21.8	25.7	7.3	7.9[3]
Wardair	0	-(4)*	400	-(4)*	-(4)*	-(4)*
LTD/INVESTED CAPITAL**** (%)						
Air Canada	59	57	56	57	65	69
CP Air	67	70	76	84	89	59
PWA	89	85	83	77	75	60
Wardair	96	100	97	102	109	112
WORKING CAPITAL***** ($Mill)						
Air Canada	299	269	205	12	(35)	(49)
CP Air	4	(17)	(35)	(58)	(110)	(136)
PWA	175	152	137	59	44	77[1]
Wardair	6	-	2	(15)	(30)	(19)

---

* Operating Income (loss) divided by Operating Revenue.

** Net Income (loss) divided by Operating Revenue.

*** Net Income divided by average of yearly opening and closing equity.

**** Long Term Debt: includes current portion; does not include deferred taxes.

***** Current Assets less Current Liabilities (excluding current portion of LTD).

Notes: (1) The 1983 figure for PWA should be viewed in the light of the major financing and accounting restatements that occurred during that year.

(2) Reflects substantial conversion of debt into equity by the parent company, CP Limited.

(3) Reflects substantial equity injection.

(4)* Wardair's negative equity in these years leads to meaningless results.

Source: Airlines' Annual Reports.

Airlines, like many service industries, have a difficult time using product differenciation as a competitive weapon rather than price cutting. The reason for this is that it is extremely easy for competitors to copy any attempt at differenciation. For example, the "frequent flyer" programs which have become widespread in the past two years are now offered by virtually every major airline. Once one airline offers a unique service attribute, it is almost imperative for all other airlines to follow in order to remain competitive.

Table 5.4 shows Air Canada's cost structure during 1984. Each category of operating expense is expressed as a percentage of total operating expenses. From these figures, which are typical of an airline operation, it is evident that two categories of expense, salaries and fuel, dominate airline operating costs. This is particularly significant with respect to labour costs because this is one of the few domains in which management has a major opportunity to influence total cost. Accordingly, it should not be surprising that labour relations within the industry have become somewhat turbulent in the recent past as airlines attempt to become more lean in the de-regulated environment.

The financial and economic characteristics described above are important background to understanding how the airline industry structure might evolve under the new policy regime. In the next section the highlights of the new Canadian air policy are presented.

5.3 Changes in Canada's Air Policy

In May, 1984 the former Minister of Transport, Mr. Lloyd Axeworthy, announced a new Canadian air policy which significantly liberalized airline regulation in Canada. The extent of the policy was to promote a healthy, innovative and competitive airline industry, thus generating to the Canadian air consumers substantial benefits in pricing and service options developed by the airline industry. As stated in the New Canadian Air Policy paper presented by Mr. Axeworthy, the objectives of the new policy were to:

TABLE 5.4

BREAKDOWN OF AIR CANADA'S 1984 OPERATING COSTS

Operating Expense	% of Total
Salaries/Wages/Benefits	38.3
Fuel	21.9
Sales Commissions	7.1
Maintenance	4.5
Passenger Meals/Service	5.2
Depreciation	6.7
Other (administration, advertising, etc)	19.3

- provide consumers with a wider range of price-service options better adapted to their differing needs and references;

- invigorate the industry and provide a stimulus to growth;

- promote national integration through increased domestic air travel;

- improve the airline industry's efficiency and productivity, and encourage innovation; and

- counter the seepage of passenger traffic via U.S. gateways just across the border.

Two quotations from the preamble of the policy are presented below.

> "The essence of this policy is less regulation and more competition. It is a significant departure from the status quo and reflects the first comprehensive reform of Canadian Air Policy. It demonstrates the government's confidence in the maturity of Canada's airline industry to respond to the challenges of increased competition. This policy discards the concept that the airline industry is a public utility. Instead, it introduces the idea that commercial competition is the basis of a healthy air transport system."

> "By implementing a careful, two-phased policy, we are showing concern for the need to maintain adequate air services to small and remote communities, harmonious labour relations, long-term financial health of the industry, and consistently high safety standards. This staged liberalization will avoid disruption in service to the public and will provide the industry with time for adjustment."

The philosophy of the new policy might best be described as one which gives precedence to the interest of consumers over the interest of the airlines. This is based on the assumption that the airline industry has matured and, therefore, no longer needs the same degree of protection from itself that it has had under the previous regulatory regime. The major highlights of the new policy are listed below:

a). Pricing regulations gradually would be eased. The CTC would introduce a more flexible tariff regime and, within two years, permit airlines to charge as little as they wish for air travel. Price increases will continue to be limited.

b). Competition would be increased among national, regional and local carriers.

c). Any new or existing carriers may apply to serve any domestic route.

d). Restrictions telling airlines what kind of equipment to use and how often to fly a route would be removed.

e). The CTC would be asked to give much greater weight to the benefits of increased competition when judging airline licence applications.

f). The CTC would be asked to report in 90 days on proposed measures to speed up and simplify the regulatory process.

g). Directions would be issued to Air Canada reasserting its obligation to operate in a business-like manner, refraining from unfair competitive practices.

h). The CTC would be asked to monitor more carefully northern services to ensure carriers are serving the public as effectively as possible at lowest possible prices.

i). The standing committee on transport would consider at what pace and in what way further liberalization should be pursued.

It is clear that this new policy presented by Mr. Axeworthy represented a significant change in direction for the airline industry. No longer will the distinction between national, regional, and local carriers be maintained. Geographic restrictions on the regional carriers have been removed. Therefore, existing carriers now have a much greater opportunity to serve any part of Canada using any kind of equipment without any form of operating restrictions.

Since the new policy came into effect, a number of carriers, including Eastern Provincial Airways, have consolidated their licenses. The major benefit of consolidation is the ability of the carrier to significantly expand its potential service network. For example, if a carrier had the points A and B on one license and points C and D on another license, under the previous regime it would not have been possible for the carrier to provide a direct service between A and D. With consolidation, any combination of service involving these four points is possible.

Many existing carriers have applied and been granted new routes. For example, EPA is now serving Ottawa direct from Halifax. All restrictions on unit toll licenses have been removed. Hence there is no longer a requirement to limit frequency or to restrict the operation to a certain aircraft type.

There have been no large new entrants to unit toll services. It has been a surprise to many that Wardair has not entered the scheduled domestic trans-continental market as had been anticipated. This might be explained by Wardair's somewhat tenuous financial position leading into de-regulation.

Regarding fares, a two-zone fare system is now in place. Carriers are free to alter fares without restrictions as long as the fare is within the limits of 104 percent of the existing reference fare down to 71 percent of

that fare. From 71 percent of the reference fare downward (a predatory fare), a seven day advance booking with one Sunday minimum stay is required. Although discount fares have been more widely available, economy fares have risen at a rate which is higher than the consumer price index. Over all, airlines have been experiencing downward pressures on yields as a result of the more widespread discounting.

Following the new air policy, a new government was elected and with the new government came further moves toward economic deregulation of the transportation industry. In July, 1985 the Minister of Transport, the Honourable Don Mazankowski put forward specific proposals for economic regulatory reform in the transportation sector. These proposals were documented in a white paper entitled Freedom to Move - A Framework For Transportation Reform and were based on the following principles:

1). Less regulation, leading to less government interference, will encourage innovation and enterprise.

2). Greater reliance on competition and market forces will result in lower unit costs, more competitive prices, and a wider range of services to shippers and the public.

3). Inflexible, restrictive regulation is an obstacle to growth, innovation and competitiveness.

4). Canadians require a regulatory process that is open, accessible, and not excessively costly or time comsuming.

5). Government should provide direct support to those transportation services that, though not economically viable, are deemed to be in the public interest. In this regard, users should also bear their fair share of costs.

6). Measures should be taken to assist those who might suffer severe economic dislocation under a new regulatory regime.

It should be noted that the principles of Freedom to Move relate to all modes of transportation, including the air industry. A brief discussion is given below relating to the direction economic regulation reform will take within the air industry as proposed by the Freedom to Move paper.

The government intends to introduce legislation in the House of Commons in February, 1986 which would significantly alter the present economic regulatory regime for the air transportation industry as well as other modes. A list of the major areas where change will take place in the air industry has been extracted from the Freedom to Move paper and is provided below:

1). The revised legislation will contain new, more flexible, regulatory criteria specific to each of the individual modes.

2). Section 3 and Section 27 of the National Transportation Act (NTA) will be revised to encourage greater freedom and flexibility in domestic arrangements, mergers and acquisitions to facilitate multimodalism where appropriate.

3). Current restrictions on mergers and acquistions within the industry will generally be relaxed so as to foster a less regulated environment where market forces play a larger role. However, the Governor-in-Council will be empowered, on his own motion or on the recommendation of the Minister of Transport, to disallow domestic mergers and acquistions of control of major federally regulated transportation undertakings with gross assets valued at $20 million or more.

4). The revised Act provide for compensation for imposed public duties in order to overcome the disadvantages of the current legislation.

5). Departmental operations will be streamlined to reduce the administrative burden, to provide best value for the taxpayers'

dollar and to promote competition in the marketplace, subject to the essential requirement that transportation safety not be compromised. The need for new capital expenditures will be carefully examined. Crown corporations in transportation will be expected to be effective and efficient while operating as good corporate citizens.

6). Entry to any class of domestic commercial air service will be governed by a "fit, willing and able" requirement. Any operator complying with Department of Transport safety regulations for operating certification and submitting proof of adequate insurance coverage will be deemed to meet this requirement.

7). Market exit will not be impeded except by a requirement of advance notice.

8). There will be no ongoing regulation of domestic tariffs; however, the new Regulatory Agency that the Government is proposing will be empowered, on appeal under an amended Section 23 of the NTA, to review fare increases, and to overturn or reduce such increases. For public-information purposes, carriers will be required to make their tariffs and tolls available at their business offices and to retain a record of all such tariffs and tolls for a minimum of three years.

9). Air carriers will be able to structure their financing and aircraft acquisition to meet changing operating requirements. Carriers will be required to have adequate liability insurance, the minimum amounts of which will be specified in regulations pursuant to the revised legislation.

10). Authority for the Minister of Transport to designate Canadian carriers on international routes will be provided for in legislation.

11). The Canadian Government will be empowered to retaliate against discriminatory or unfair commercial practices by a foreign government or air carrier and against actions jeopardizing the safety of international civil aviation.

In the next section of this chapter some observations are presented on the future outlook for the airline industry in Canada, and in the Maritimes in particular.

5.4 Future Outlook

It is clear that the Canadian Transport Commission is likely to become more consumer orientated in its regulatory decision making. License applications for southern Canada unit toll services will probably be disallowed only in exceptional circumstances.

Some concentration of incumbent carriers might materialize as carriers attempt to expand their networks through merger or acquistion. The CP Air/EPA merger and the acquistion of Time Air by PWA are two recent cases in point.

Service offering will likely be more closely matched to demand with the high density routes receiving the greatest benefits in this regard. For areas like the Maritimes, it is important to be cognizant of the potential that some communities may experience significant deterioration in the level of air service provided by the major carriers. This might take the form of lower frequency of service and/or less convenient arrival and departure times. Exits by major carriers from some communities can also be expected.

The benefits of increased pricing flexibility may not be shared equally by all communities. The propensity for discounting will be stronger on medium to high density routes. Hence, it is probable that fare anomilies will materialize as the cross-subsidization of services which have existed in the past diminishes and the principle of equity in pricing for all users disappears.

Some variation in the traditional patterns of collective bargaining in the airline industry might evolve. Carriers will be seeking opportunities to create a competitive advantage through such measures as lower labour costs, more flexible work rules and greater flexibility in adjusting the labour force to market conditions.

In Atlantic Canada, the major concern will be adequacy of air services. Carriers will now have much greater freedom to deploy their assets in a manner which offers the greatest potential for profitability. Accordingly, some air service markets in the region may not be attractive to encumbent carriers. These markets may suffer deterioration of service and/or abandonment by existing carriers.

Table 5.5 shows the 1983 enplaned and deplaned passenger traffic for several airports in Atlantic Canada. Examination of traffic figures at most Atlantic Canada airports indicates that the volumes are not big enough to support a large number of daily flights with aircraft in the hundred-seat size range (DC9 or Boeing 737). It is also evident that the region does not have sufficient traffic to support a large number of hubs under a hub and spoke concept. Accordingly, it can be expected that Halifax will continue to emerge as the dominant hub in Atlantic Canada as has been the trend in the past few years (See Figures 5.2 to 5.5 inclusive).

Regarding westbound services between Atlantic Canada and Central Canada, it is possible that some services will be shared by at least two cities. For example, in New Brunswick the existing arrangement whereby some Air Canada flights are shared between Moncton and Saint John may become a more common occurrence. This provides the opportunity for airlines to consolidate traffic loads in order to maximize load factor on these services.

The traffic volumes for eastbound services (ie. New Brunswick to Newfoundland) are also not sufficient to support a significant number of direct services. Hence, it is probable that these services will be

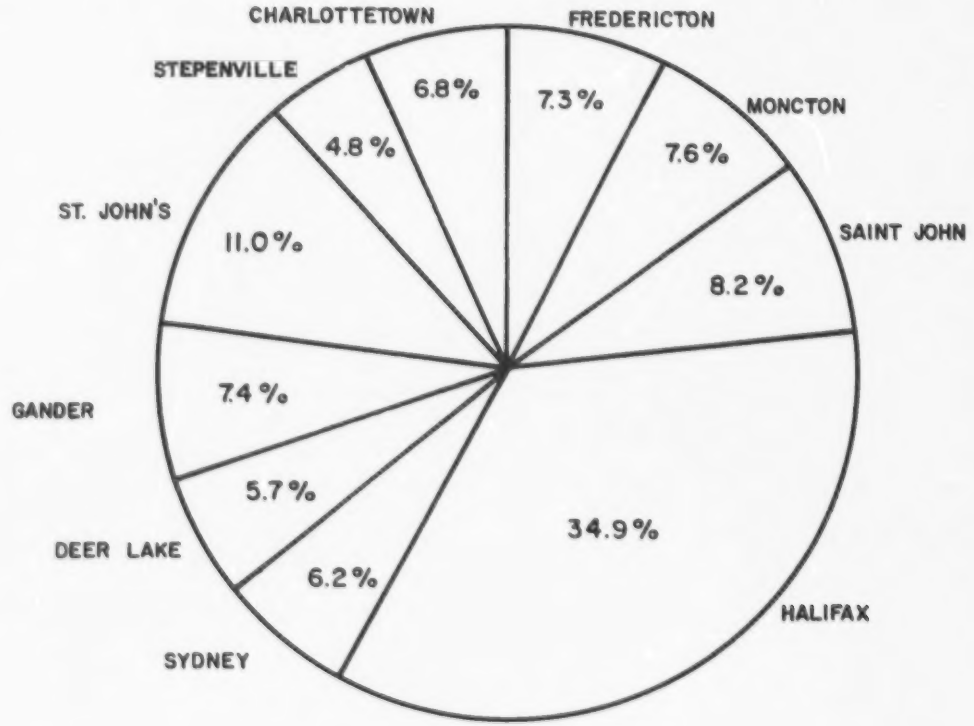


FIGURE 5.2: ATLANTIC FLIGHT ACTIVITY- TOTAL SHARE OF ARRIVING FLIGHTS (1979)

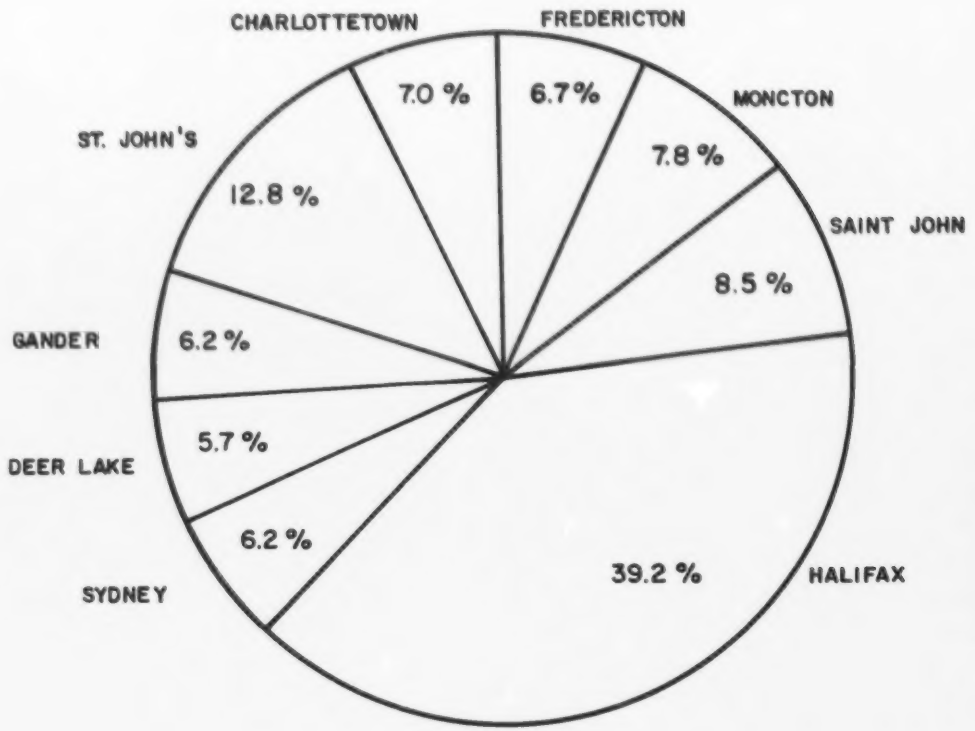


FIGURE 5.3: ATLANTIC FLIGHT ACTIVITY- TOTAL SHARE OF ARRIVING FLIGHTS (1983)

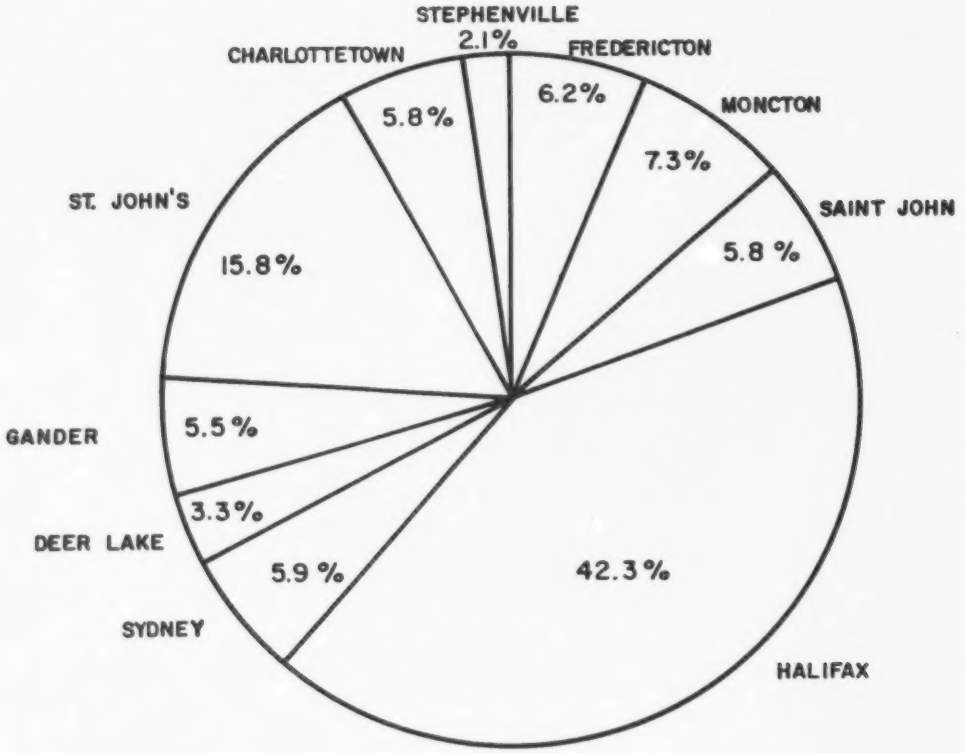


FIGURE 5.4: ATLANTIC AIRPORT ACTIVITY - TOTAL SHARE OF DEPLANED PASSENGERS (1979)

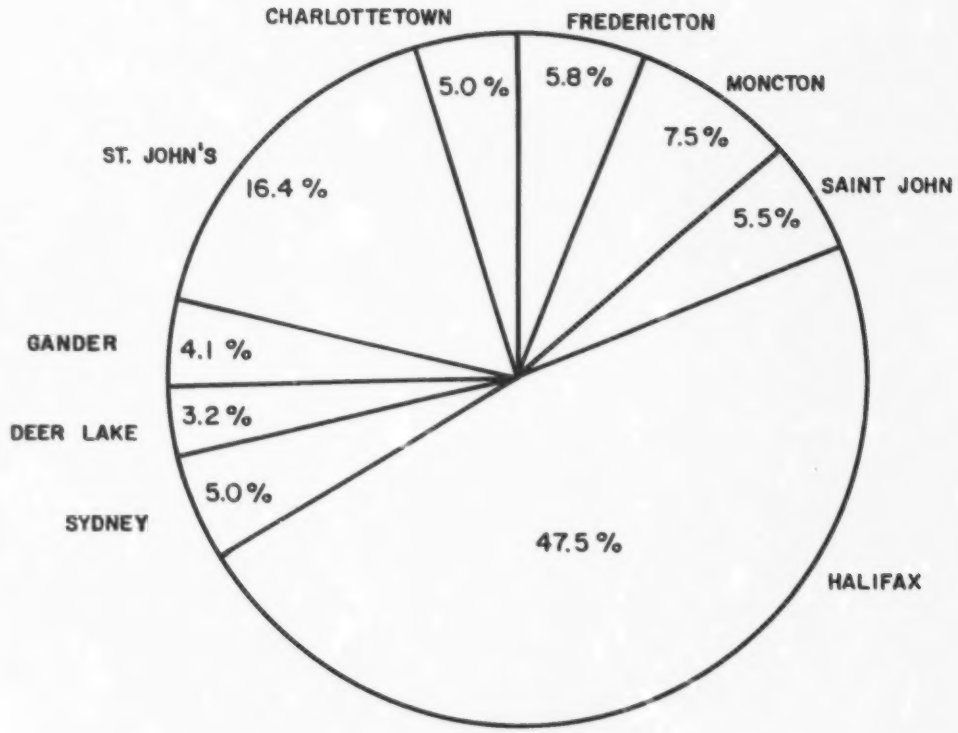


FIGURE 5.5: ATLANTIC AIRPORT ACTIVITY - TOTAL SHARE OF DEPLANED PASSENGERS (1983)

TABLE 5.5

TOTAL ENPLANED AND DEPLANED PASSENGERS (1983)

Airport	Enplaned and Deplaned Passengers
Charlottetown	140 402
Deer Lake	91 423
Fredericton	163 286
Gander	126 778
Halifax	1 395 878
Moncton	206 313
Saint John	167 342
St. John's	463 122
Sydney	140 944
Wabush	69 430

provided through Halifax with connections to direct flights to eastbound points. Some downsizing of aircraft on intraregional services can also be expected.

The possibilities outlined above (ie. sharing of flights to Central Canada, the continued emergence of Halifax as the regional hub and probably downsizing of aircraft on certain intraregional services), can all be explained by two major factors. First, many intraregional routes exhibit low traffic densities. Second, carriers now have much greater freedom and flexibility to rationalize their route systems and to seek new market opportunities.

When the new air policy was announced, concern was expressed about its potential impact on air services in small communities. This concern was especially prevalent in Atlantic Canada. Many people in the transportation industry believe that any loss of services by the national and regional carriers will be replaced by small commuter operators.

While entry by small commuter operators can be expected, it must be recognized that significant entry barriers for small operators do exist. For example, capital availability to finance aircraft, support systems and initial promotional expenses can be a problem. Commuter airline operations often face stiff competition from surface transportation, particularly on links of less than 240 kilometres. Small aircraft operators must be able to utilize aircraft at least 6 hours per day with reasonable load factors. Overhead costs can be excessive in relation to traffic volumes if the small operator has to mount his own support systems such as reservations, ticketing and advertising.

The image of small aircraft operations is often not favourable to attracting traffic. Many communities perceive a high frequency, small aircraft operation as providing a lower level of service than a low frequency jet operation. They often perceive small aircraft as being unsafe.

For all of the above reasons, it is probable that successful commuter operations may be those which form alliances with the major carriers to feed traffic into the major hubs. For the commuter operator this provides the opportunity to eliminate some of the overhead costs and for the major carrier, the primary benefit is the ability to feed traffic through a hub.

Since the document Freedom to Move - A Framework for Transportation Reform was released, various public and private organizations, interest groups and individuals have reviewed its contents and have reacted as to its potential impact on the Canadian transportation industry, and in some cases, specifically with respect to various regions. A recent seminar held in Fredericton entitled Transportation Forum on Regulatory Reform - Consequences for Atlantic Canada (sponsored by the UNB Transportation Group in cooperation with the Atlantic Provinces Economic Council and the Canadian Transportation Research Forum) was most successful in identifying areas where the proposed new legislation could affect air transportation in Atlantic Canada.

Concern was expressed that many communities in the Atlantic Region will lose their direct air service to and from Central Canada as the mainline carriers proceed with rationalization of their service levels and equipment utilization. There is little doubt that the air carriers under a less economic regulated environment will be very interested in ensuring that both their operational and financial productivity is maximized and this can only occur effectively on the more dense routes where traffic volumes can support head to head competition.

The relaxation of the past regulatory regime has resulted in expected mergers/acquistions. CP Air has ensured that they are a national carrier in the true sense of the word by acquiring Eastern Provincial Airways (EPA) and Nordair. Although EPA will remain as a legal entity, they will be fully represented by CP Air from a marketing strategy and the provision of services to the travelling public.

The impacts of less regulatory control have already been felt throughout the Atlantic Region and this will continue. The relaxation of market exit has resulted in notice by Air Maritime to discontinue the existing turpoprop service, which presently exists in the Maritime Provinces, early in 1986. However, the relaxation of entry control based on a "fit, willing and able" requirement has resulted in five applications by potential operators to fill part or all of the void that will be left by Air Maritime's departure as well as increase local air service to communities presently not receiving any service. Two additional applications have been received from State of Maine based airlines to provide transborder service.

Two of the major applications have come from Air Atlantic and Air Nova and both have proposed serving the Maritime Provinces with state-of-the-art Dash 8 aircraft built by deHavilland. Both have proposed to operate a hub and spoke service to Maritime communities from Halifax. Air Atlantic would provide feeder service to Canadian Pacific Airlines Ltd. mainline routes while Air Nova would play a similar role for Air Canada.

Most experts agree that deregulation will result in much higher intra-regional air service levels, with Halifax serving as a primary hub for the Maritime Provinces. It is anticipated that the intra-regional services will be provided by turpoprop aircraft and that fare levels are not likely to decrease to any significant extent. The thin intra-regional travel market in the Maritime Provinces will make it very difficult for new entrants to survive and most experts agree that one airline, providing intra-regional feeder service will eventually emerge over the long term.

Communities with existing jet service could see a deterioration of that service to Central Canada with respect to frequency of service and convenient arrival and departure times. There will be pressure on the trunk carriers to consolidate these services in the larger markets where travel demand can support direct jet service and competition. Although many communities in the Maritime Provinces will retain their Central Canada jet service in one form or another, there could be sharing of this service by two communities to increase aircraft loads.

5.5 Summary

The new Canadian Air Policy and the Freedom to Move paper has set the stage for significant changes in the Canadian Air Transportation system. They are based on a philosophy of greater reliance on market forces for the determination of service levels and fares. The notion of equity of treatment for all users of the air transportation system is no longer a major objective. The interest of consumers will take precedence over the need for stability in the industry. The new policy creates new opportunities and new threats. In Atlantic Cananda, there is a significant threat of deterioration in air services available to many communities. Air travellers in the region will have to adjust to changes in the nature of air services.

6.0 ASSESSMENT OF FUTURE MARKET POTENTIAL

6.1 Introduction

Chapters 3.0 and 4.0 of this report documented the existing air services and demand patterns associated with the Moncton area, while Chapter 5.0 provided a summary of the new air policy and its potential impact on air service in the Atlantic Region. Since the introduction of the Freedom to Move paper in July, 1985 by the Honourable Don Mazonkowski there has been a number of new airline applicants to provide interregional and local air services in the Atlantic Region.

Both Air Atlantic and Air Nova have applied to provide extensive interregional air services throughout Atlantic Canada. Air Nova proposes to provide deHavilland Dash 8 (36 seats) service on a route structure which includes Goose Bay, Blanc Sablon, St. Anthony, Deer Lake, Gander, Stephenville, St. John's, Sydney, Halifax, Yarmouth, Charlottetown, Moncton, Saint John and Fredericton. Air Atlantic proposes to serve St. John's, Gander, Deer Lake, Stephenville, Sydney, Halifax, Yarmouth, Charlottetown, Moncton, Saint John, Fredericton and Iles de la Madeleine with Dash 8's (36 seats) as well. Air Atlantic's application has recently been accepted while Air Nova's is under consideration.

Both Air Nova and Air Atlantic will compete "wing tip to wing tip" for interregional air passengers on all major links within the Atlantic Region. It is anticipated Air Nova will provide connections to Air Canada's national route system at Halifax while Air Atlantic will provide connections to Canadian Pacific Airline's national route structure. Both carriers will replace Air Maritime which is scheduled to shortly terminate all turpo prop service in the Atlantic region. Both new carriers are proposing a service which is efficient, reliable and on-time.

In addition to the two interregional carriers, a number of other local air service applications has been submitted to the Canadian Transport Commission. Two of these applications have come from Air Bras d'Or Ltd. and Hummingbirds Ltd. Air Bras d'Or Ltd. proposes to provide air service

with Twin Otter aircraft (18 seats) to Sydney, Port Hawkesberry, Halifax, Digby, Charlottetown, Moncton, Fredericton, Saint John and Charlo. Hummingbird Ltd., on the other hand, would provide Piper Navjo (6 seats) service to Moncton, Saint Leonard, Bathurst, Fredericton, Saint John, Charlottetown, Summerside and Greenwood. Although neither carrier would compete directly with Air Atlantic or Air Nova, they would compete with each other on certain routes for primarily local business travel.

The proposed air service applications discussed above, as well as other applications not mentioned, clearly reveal the changes which are occurring in the Atlantic Region as a result of the new air policy. Under the new policy entry to any class of domestic commercial air service will be governed by a "fit, willing and able" requirement, rather than the previous "public convenience and necessity" concept. Consequently, any application which can prove the "fit, willing and able" requirement will probably have a license granted.

This Chapter provides an assessment of future market potential for a local air service based in the Moncton area. This assessment was directed at identifying potential business travel demand on intraregional links in which there is a reasonable opportunity for air carriers to offer service options which would be competitive with surface mode alternatives. An assessment was also made on interregional links to other provinces.

6.2 Data Collection

To assist in this phase of the project, various existing sources were obtained and reviewed. These included Statistics Canada historical origin - destination data, Greater Moncton Chamber of Commerce air service survey completed in 1984, forecasts developed by the Canadian Air Transportation Administration in preparation of the New Brunswick Area Aviation Master Plan and the Moncton Master Plan, forecasts completed in the past and forecasts submitted with the various applicants for air service in the Atlantic Region. Some of these data sources are documented in Chapters 3.0 and 4.0.

6.3 Identification of Local Air Service Demand

6.3.1 Introduction

Initially it was intended to send a questionnaire to a sample of businesses in the Greater Moncton Area to assist in identifying the demand for local air service, and then to follow up this mail out with telephone interviews. The survey was intended to not only develop data on existing travel patterns and modal choice, but also to collect information on service/price options by air that would encourage travellers to switch from highway to air travel on the shorter business trips where air is not the current mode of travel. It was intended to analyze the survey results to identify links, service/price options and characteristics which offer potential to generate sufficient traffic to support improvements to air services in the Moncton area.

Following completion of the first three phases of this project, which provided an indepth knowledge of existing air travel characteristics in the Moncton area, the Study Team believed the survey of Moncton area business people to determine potential demand could be considerably enhanced if the survey format and work program were changed. The two key changes to the work program included:

1). increased effort regarding the nature and approach to analysis of future demand for local air service at Moncton.

2). reorienting the survey approach to obtaining supplementary input from the air service users by replacing the user surveys with a series of "focus group" discussions.

6.3.2 Local Air Service Demand Modelling

The original intent with respect to developing local air service demand estimates was to develop these estimates through consultations with various existing and potential carriers, as well as through discussions

with representatives of the Canadian Transport Commission who have detailed information on the potential demand identified as a result of various applications for such local service. This was then to be supplemented by a general review of the previous projects relating to local air service and the sample survey of business travellers in the Moncton area. The above activities were completed (with the exception of the sample survey), and based on an assessment of the results, it was believed that a more rigorous analysis of potential demand for local air service might be useful. Efforts were directed at the development of an appropriate demand forecasting model for the smaller centres in the Maritime region presently without air service. The results of the model development were used, along with all of the other data sources and the focus group meetings information, to estimate local air service demand.

It is often desirable, in the context of studying regional air travel, to attempt to model traffic activity within the region. It can be appreciated that the problems posed by such a task at this level are numerous. Data and/or time limitations may preclude any micro-analysis (such as on a city-pair level) of the system. Macro-analysis (such as total airport activity) depends heavily on aggregate statistics. The explanatory power of these variables is diminished through any aggregation. Time-series analysis is a useful tool only in the case where transferability or prediction of new traffic is not a desired final objective.

It is in this context that modelling air traffic activity in the Atlantic region must be viewed. Given the low population density throughout most of the region, disaggregate demographic statistics are difficult to obtain, and are generally less reliable than for a large urban centre. Even catchment area estimates may be suspect, as the effective catchment area will to some degree depend on more than geography, and hence may change with time.

Compounding the problem is the fact that few data points exist. The desire to stay away from simple time-series analysis leaves only the

airports themselves as sources of traffic data. (The demographic data available for any time-series analysis are usually derived from a base census year. Modelling on the basis of such data may be misleading.) A model with enough well-chosen variables will, of course, predict traffic perfectly. In fact, the model will become progressively "better" at a very fast rate if assumptions about the variables are made in an iterative fashion. This curve-fitting technique must be used with some caution to avoid the development of an accurate, but hardly meaningful, model.

The problem with a lack of data is further compounded by the fact that two airports in the region (St. John's and Halifax) are difficult to consider in the context of regional airports. Halifax serves as a hub for Atlantic air travel, and the airport in St. John's represents the only suitable long distance egress from the city. (Automobile is a viable alternative in Charlottetown.) Because this modelling effort is concerned with regional air traffic, the consideration above leaves only eight airports to be included.

There are a number of variables which generally influence air travel to a significant degree. Chief among these are measures of population and disposable income. The supply of air service also influences demand, thus an accessibility variable is often created to reflect the level of air service in any model. Because of the limited data, it was decided that some combination of the above variables would be used in an attempt to develop a model. It was recognized that the resulting predictive capabilities would not be as accurate as a more sophisticated model. However, it is likely that any increase in accuracy, through increased sophistication of the model, would be more a function of curve-fitting than improved predictive capability.

Table 6.1 summarizes basic airport related population employment and income data. The catchment area populations were obtained from Transport Canada while employed labour force, population and income for urban centres were taken from the Financial Post Market Handbook.

Table 6.1

AIRPORT RELATED POPULATION, EMPLOYMENT AND INCOME DATA

Airport	Code	1981 Urban Population		1981 Urban Employed Labour Force	1981 Catchment Area Population	1981 Catchment Area Income ($ Millions)
		Total	Over +15			
Chatham	YCH	6 779	4 810	2 326	112 000	564
Charlo	YCL	1 603	1 100	560	65 000	358
Moncton	YQM	98 354	74 740	40 575	205 000	1 354
Saint John	YSJ	114 048	85 100	47 715	157 000	1 135
Fredericton	YFC	64 439	49 040	29 815	192 000	1 437
Halifax	YHZ	200 613	154 425	96 580	577 000	-
Sydney	YQY	87 489	65930	29 265	170 000	1 007
Yarmouth	YQI	7 475	5 800	2 795	66 500	413
Charlottetown	YYG	44 999	33 350	19 705	123 000	810
St. John's	YYT	154 820	112 325	62 965	286 000	-
Montreal	YUL	2 828 349				
Ottawa	YOW	717 978				
Toronto	YYZ	2 998 947				

Statistics Canada population and income data were obtained for the counties in which the major urban centres served by an airport were located. Median and average incomes for the counties and the urban centres were tabulated, along with average incomes for the total labour force. Per-capita catchment area incomes were based on the total catchment area income estimates. This was calculated as the product of the average income and the effective population. Effective population was the observed county work force employed, adjusted for the fact that only those over 15 and working were included, and expanded to the catchment area in question.

Figures 6.1 and 6.2 display the pattern of regional air activity as a function of population and catchment area income, respectively. The similar pattern displayed by the two graphs is primarily a result of the high correlation between the two variables. The dependent variable appears on the horizontal axis in both figures for clarity purposes.

There are two distinct data groupings that can be seen from Figures 6.1 and 6.2. The first group is comprised of the three smallest airports (Chatham, Charlo and Yarmouth). They have much lower per-capita trip rates than the other five. By observation it appears that catchment area population is a better first indicator of total air activity than catchment area income. The possibility of using a different income variable to adjust the observed activity rates was considered.

Figure 6.3 illustrates the per-capita income of the catchment area for each airport plotted with respect to the total activity at the airport. It is not unreasonable to expect that the effect of income on trip activity is positive. The correction implied by an income factor would thus be consistent if trip rates were lower than average (as seen in Figure 6.2) and average income per capita was lower than average. Thus the correction would be consistent in the case of Charlo, Chatham, Yarmouth, Moncton, Charlottetown and Sydney, but inconsistent (higher income, lower effective trip rate) for Saint John and Fredericton. The degree of correction may be excessive, however.

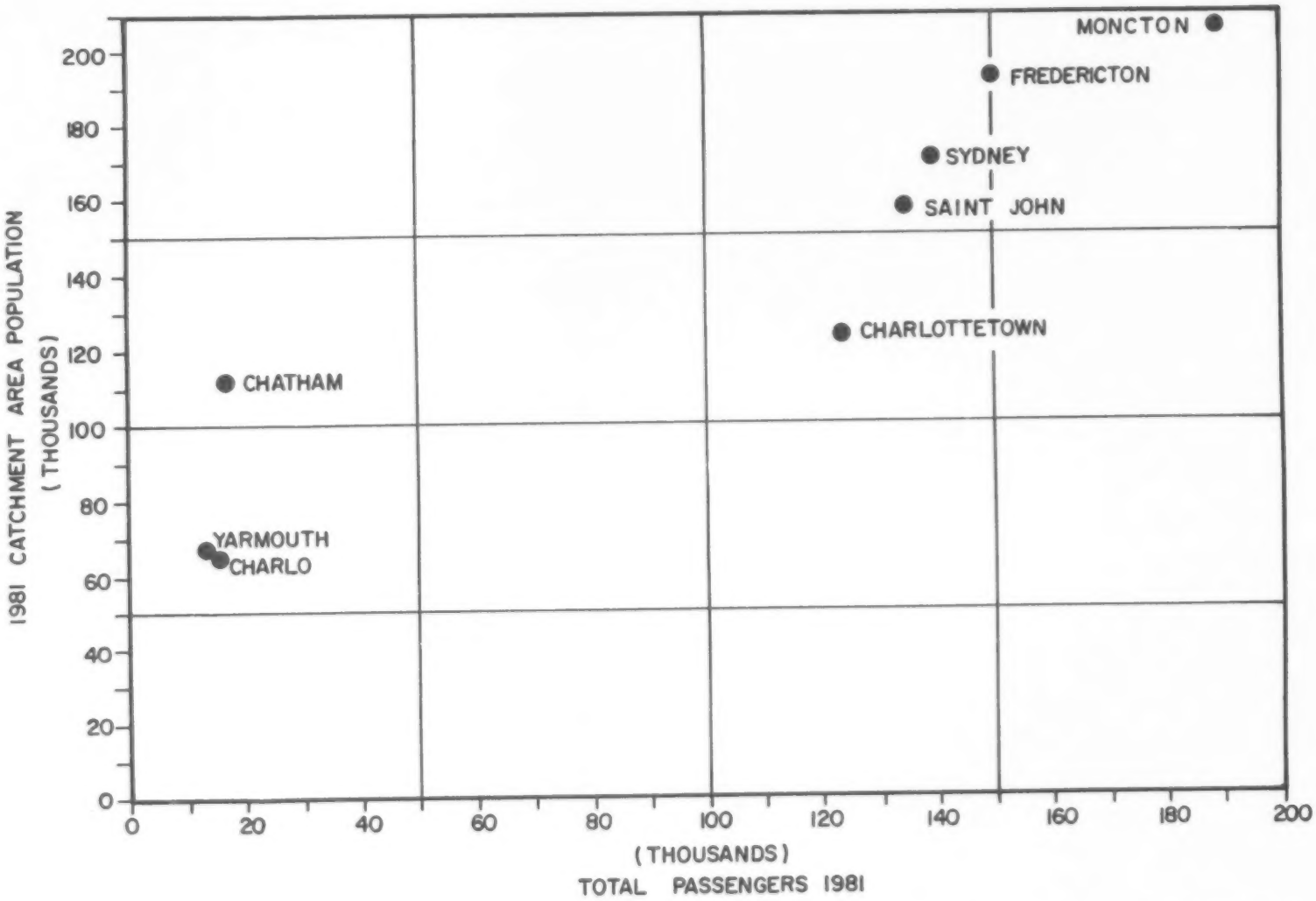


FIGURE 6.1: ATLANTIC REGION AIR ACTIVITY - TOTAL PASSENGERS BY CATCHMENT AREA POPULATION

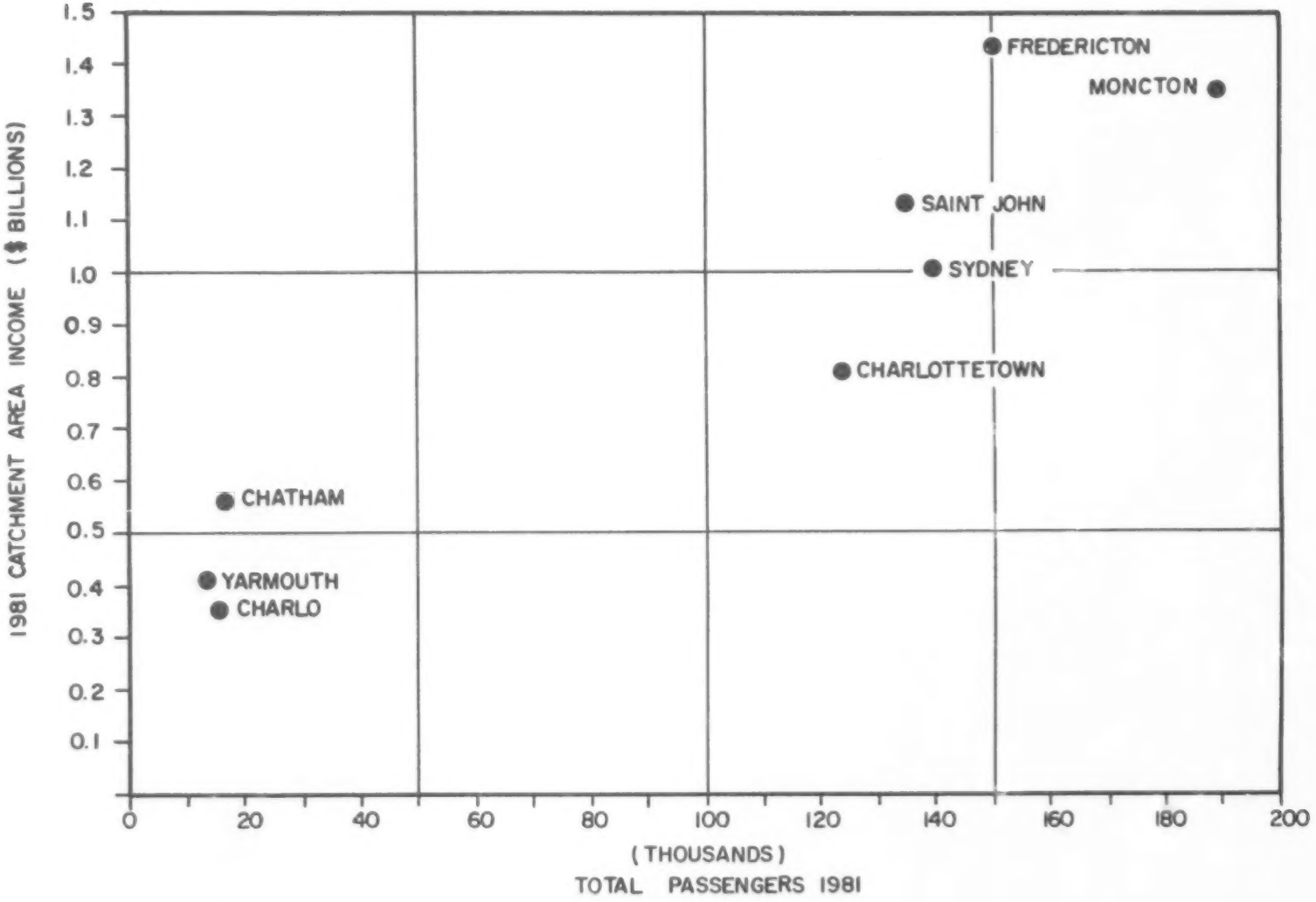


FIGURE 6.2: ATLANTIC REGION AIR ACTIVITY - TOTAL PASSENGERS BY CATCHMENT AREA INCOME

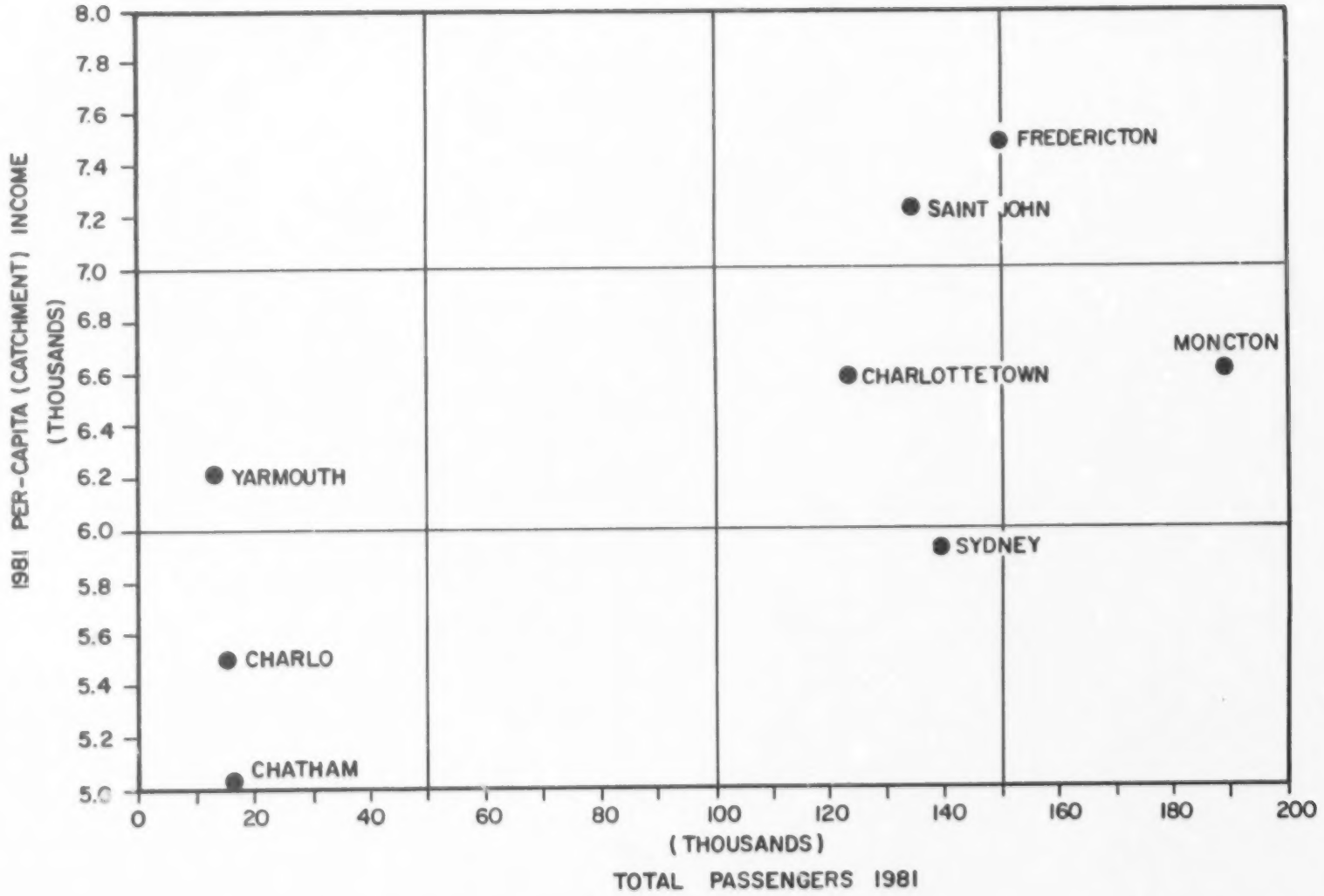


FIGURE 6.3: ATLANTIC REGION AIR ACTIVITY - TOTAL PASSENGERS BY PER-CAPITA INCOME

The varied per-capita trip rates in the region can also be attributed to the availability of other modes, and the distance to the nearest alternative airport. This is particularly true in the case where distances are not large, and service levels vary. An accessibility variable was, therefore, considered, which would take these factors into account. Because the greatest difference in service levels existed between the two subgroups identified earlier (the three smallest airports and the rest), this factor was developed to address this difference.

The remainder of this section describes the steps taken to find a reasonable air activity model for the Atlantic region. A reasonable model was considered to be one for which estimated passenger activity was within 10 percent of that observed for all eight regional airports.

Figure 6.4 illustrates the per-capita trip rates for each airport, based on the catchment area population. It was decided to develop an accessibility factor that could be applied to the three smaller airports to account for their lower activity rates.

The distances from the smaller airports to the nearest regional airport were identified. Plotting the activity rates of the airports against this distance showed that activity increased with distance, as expected. The best straight line through the three points was chosen to determine the access factor for each airport. While a logarithmic or power curve may have provided a somewhat better fit, this simpler approach was adopted.

The access equation, applicable to airports with the following characteristics:

a). without Transport Canada towers;
b). fewer than 3 000 flights/year;
c). fewer than 50 000 pax/year.

is

$$AF = (0.1 + DISTANCE\ (KM)/3\ 333) * 1.33$$

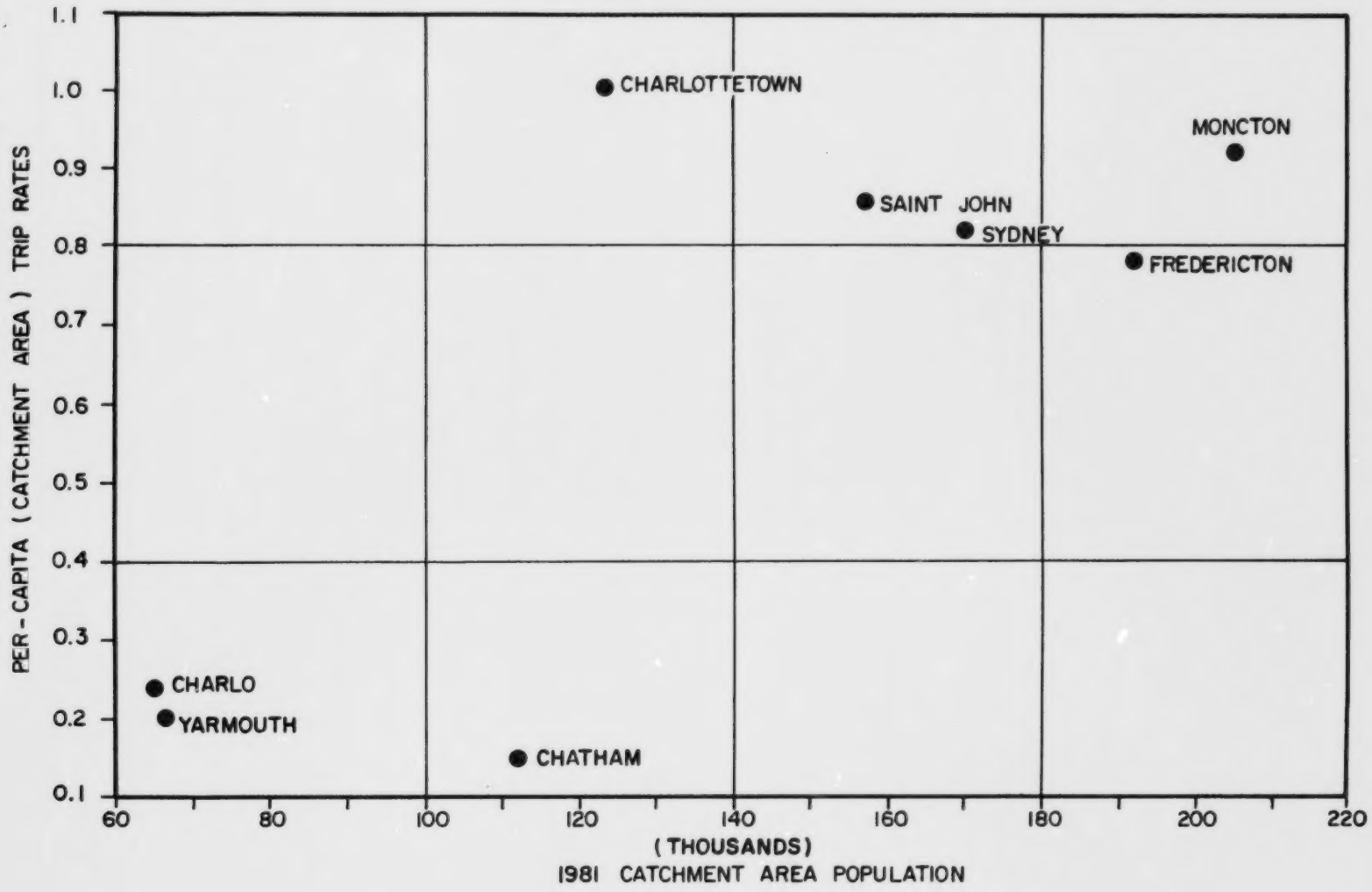


FIGURE 6.4: ATLANTIC REGION AIR ACTIVITY - PER-CAPITA TRIP RATES

where DISTANCE is the distance to the nearest alternative airport of larger size. The accessibility factor (AF) is 1 for the 5 larger airports.

This access factor is used to modify the base per-capita trip rate for the region (calculated as 0.78 trips per person).

In Figure 6.4, Charlottetown can be seen to have the greatest per-capita trip rate of all the airports. The inaccessibility of the island is one possible explanation. However, when the number of available flights is reviewed, it can be seen that Charlottetown also has the highest per-capita flight rate of all the airports. It was decided to use this flight rate as a proxy for the availability of air transportation, thereby including a supply variable in the model. An "availability factor" was calculated in much the same way as the previously discussed access factor. The resulting equation is:

$$AV = .924 + 6 * FPC$$

where FPC is the ratio of yearly flights to the catchment area population (Flights Per Capita). Determination of the equation was based on standardizing the Charlottetown flight rate.

When the catchment area population figures are multiplied by the access and availability factors, estimated trips are within 10 percent (+ or -) of the observed trips that year. Calibration of the above two equations was performed in an iterative trial and error manner until this condition was met. The trip estimation equation is:

$$TRIPS = POP * AF * AV * .78$$

where

POP = the catchment area population

AF = the access factor, discussed above

AV = the availability factor, discussed above

Statistical analysis of estimation error and associated calculations are all but meaningless for a model such as this. The severe data limitations (adequacy, availability) prevent any rigorous defence.

Table 6.2 summarizes the various data inputs to the trip estimation equation for 8 airports used in model development. Figure 6.5 illustrates the observed vs predicted trip rates for the eight airports in question.

Modifications to the model were attempted using ratios of urban to catchment population and income data. Income data was also incorporated separately. In all cases, the relative errors increased, or the results were counterintuitive. This last case refers to the discovery that higher income levels and lower trip rates were related in some cases, which is not a likely result.

This model was used to estimate the annual air passengers trips which might be expected from Charlo, Bathurst and St. Leonard on a local air service network. Other input included the previous origin/destination data, other forecasts and information obtained from the focus group meetings. These focus group meetings are discussed below.

6.3.3 Focus Group Meetings

THe focus group discussion methodology was designed to obtain better insight into the critical aspects of local air service as defined by a cross-section of the potential users of such a service. The representatives included in the focus group discussions were randomly selected from a stratified sample of the potential business air travel market. This stratified sample was selected in consultation with the Chamber of Commerce and representatives of the travel agents serving the Moncton area.

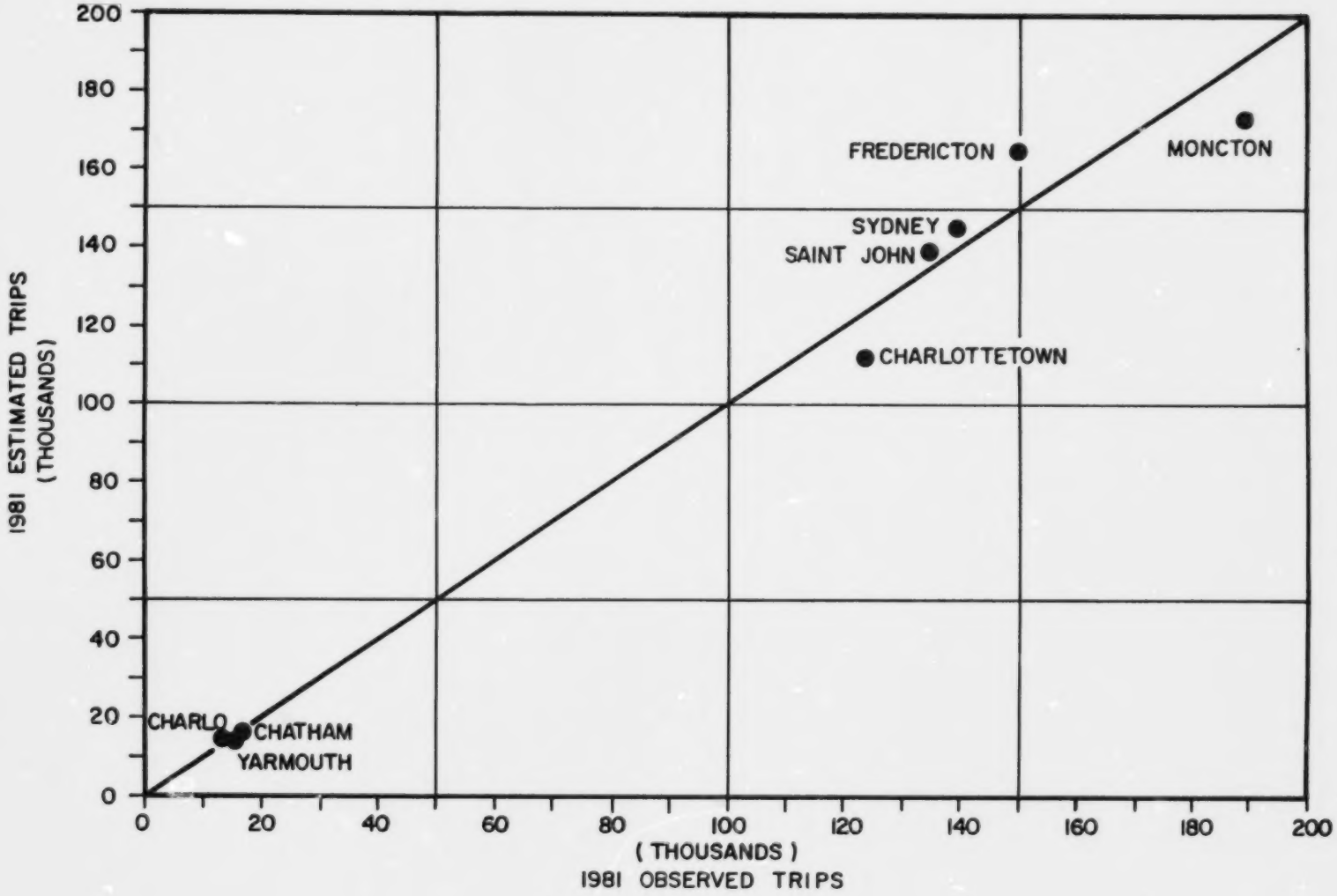


FIGURE 6.5: ATLANTIC REGION AIR ACTIVITY - ESTIMATED VS. OBSERVED TRIPS

Table 6.2

AIRPORT RELATED DATA INPUTS TO THE TRIP ESTIMATION EQUATION* (1981 DATA)

Airport	Flights Per Year	Distance to Larger Airport (km)	Catchment Area Population	Air Passengers	Trips Per Capita	Access Factor	Flights Per Capita	Availability Factor
Chatham	720	135	112 000	16 670	.15	.187	.006	.96
Charlo	720	375	65 000	15 630	.24	.283	.011	.99
Moncton	5 411	0	205 000	189 240	.92	1.000	.026	1.08
Saint John	5 523	0	157 000	134 760	.86	1.000	.035	1.14
Fredericton	5 648	0	192 000	150 050	.78	1.000	.029	1.10
Sydney	4 801	0	170 000	139 520	.82	1.000	.028	1.09
Yarmouth	1 440	336	66 500	13 410	.20	.267	.022	1.05
Charlottetown	5 006	0	123 000	123 640	1.01	1.000	.041	1.17

* Trips = POP * AF * AV * 0.78

The format for the focus group discussions was such that the activity was chaired by a senior representative of Fiander-Good Associates Ltd. The small group sizes were critical to obtaining an informal atmosphere in which direct discussion and exchange were held with all members of the group. This was advantageous because of the desirability to obtain a meaningful input from all members of the groups rather than run the risk of one or two participants dominating the discussion with personal opinions and biases.

Emphasis was placed on obtaining a better appreciation of the perceived limitation of existing air service and problems which have arisen through previous attempts to utilize the service. Also, input was received on the desired features of an improved air service for Moncton. Particular emphasis was directed at identifying the desirable criteria and characteristics of a local/commuter air service for the region.

The focus group discussions were opened with a brief discussion/ presentation by the Fiander-Good Associates Ltd. representative. This presentation included a description of the nature of this study and its overall objectives. The current status was summarized in general terms based on the work carried out to date, as well as highlighting the general nature of work yet to be completed. The initial introductory discussion by Fiander-Good Associates Ltd. also included an overview of some of the highlights of the work carried out during Phases I to III. This review was limited in nature and designed to initiate the discussion process and generate potential topics for discussion by the groups. At the same time, this presentation assisted in explaining the nature and character of airline operations. Particular care was taken to avoid extending this introduction beyond what was necessary to set the stage and stimulate the discussion process. In particular, specific attention was given to limiting the introductory presentation so it did not extend to the point of running the risk of influencing the points to be raised and discussed by members of the focus groups.

A check list of questions to be asked at the focus groups meetings was prepared to ensure all major areas were discussed and the results recorded in an orderly format. This check list and recording form included the following items:

a). The acceptability of various aircraft types, including discussion of the importance of general aircraft types such as the jet versus turpo prop. As well, general input was received regarding other features associated with the desirability of aircraft, including such items as general size, range, and cabin seating configurations.

b). The extent to which there is competition with other modes for business travel. This topic provided the opportunity to determine the key factors in selecting modes for business travel. It also assisted in determining the local perception of trade-offs in the primary mode selection factors for business trips (including the time costs and delays en-route).

c). The most probable origins and destinations for local air traffic associated with Moncton. This formed the basis for selecting the route networks for detailed analysis.

d). A general indication of the potential frequency of use of a local air service associated with the key origins and destinations identified in the item above. This assisted in estimating demand on the various network links.

e). The importance of in-flight service related factors. This included an attempt to determine what is perceived as being the desirable and minimum levels of in-flight service relating to such factors as coffee and beverage service, as well as snacks and meal requirements, newspaper and magazine distribution. This also included specific consideration of more passive in-flight

service characteristics, including seating configurations and layouts and general factors relating to comfort and convenience.

f). Schedule related characteristics were identified and discussions carried out to determine the focus groups' perception relating to these features. Specific items included: a). earliest desirable departures, b). latest desirable arrivals/returns, as well as an absolute maximum in terms of the early departure and latest arrivals, c). acceptable time-frames for connections between flights for both on-line service involving the same aircraft and for flights involving connections with other aircraft.

The results of the three focus group meetings are documented below. All three meetings produced similar comments and thus the results are summarized together rather than individually.

SUMMARY OF ALL FOCUS GROUP MEETINGS

During the week of October 14, 1985 the focus group meetings were held in Moncton with groups of business people who utilize air travel at various levels. One group was represented by large regular users (including public and private sector business people), another group was composed of medium sized organizations and the third group was composed of smaller sized organizations. The existing and possible future level of air service associated with Moncton was also discussed with a large number of potential air service users who do not normally travel by air, but rather used other modes. Because of difficulties in attempting to form a focus group composed of these potential users, their comments and opinions were recorded through numerous telephone conversations. This fourth group of potential air users primarily contacted by telephone consisted of more than 30 people.

This summary discusses the results obtained from the meetings with the three focus groups and the numerous individuals in group four who were

contacted by telephone. Prior to the meetings a check list of questions was developed to ensure all essential questions were directed at the air travellers. In addition, a recording sheet was passed out to each participant requesting any additional comments or input regarding existing and potential future air service at Moncton that they might prefer to submit after the general discussion. A summary of the specific meeting results as recorded by Fiander-Good Associates Ltd. was sent to the individual participants to ensure that the results reflected what was discussed. Those participants that replied were in agreement with the summary of comments relating to their specific meeting.

Although three seperate focus group meetings were held with various sizes of organizations, generally it can be stated that the comments received were consistent in almost all air service characteristics. Consequently, the input received from the three groups is summarized below under the appropriate air service characteristic headings. Any differences recorded among the various focus groups are noted seperately.

Prior to summarizing these comments, it is worth noting a common concern stated by all business people that were contacted and those who attended the focus group meetings. These business people are very concerned about the reliability of Air Maritime scheduled flights. More specifically, they indicated numerous incidents which have occurred relating to the Halifax- Moncton flight connection. Because of the many times these flights are either late or cancelled, the Moncton business people have diverted away from this air connection and have used the private automobile as a reliable travel means. They have indicated that to ensure they make their connection with other flights in Halifax, there is a strong tendency to drive to the Halifax Airport, rather than take the chance their flight from Moncton will be late or cancelled.

Although business people in the various focus groups have expressed other concerns and desires relating to air service, there is little doubt the reliability of existing air service to and from Halifax is their major concern.

Major Business Areas

Paramont to the development of a local air service in the Atlantic Region is the identification of the major destinations and the associated demand. One of the primary purposes of the focus group meetings was to identify these major business areas throughout the Atlantic Region. The discussions with business people resulted in the following major areas being identified as to where they conduct their business and to which they desire good air service:

Sydney	Halifax
St. John's	Montreal
Saint John	Ottawa
Charlottetown	Toronto
Fredericton	

The above locations represent the most frequent business demand areas identified in the focus group discussions. Three other areas were also mentioned as business interest areas in the region; Charlo (Campbellton/Dalhousie), Yarmouth and Edmunston. However, it was indicated that there is not a large demand associated with these three areas.

Modal Selection Factors

Business people in each of the focus groups were asked to identify what they considered the key factors in their selection of a travel mode to conduct their business in the Atlantic Region. These factors include cost, travel time, convenience, same day return, safety, availability of service, reliability of service and frequency. Prior to summarizing the importance business people attached to these characteristics, it should be noted that only two travel modes are considered viable, the private automobile and air. Bus and rail transportation, as they relate to business travel in the Atlantic Region, are not considered realistic options.

Most business people indicated that travel time is the major criteria for selection of a transportation mode, and if the reliability of air flights could be increased above what exists at the present time, air would be utilized much more frequently for regional travel. Cost is not a major factor in the selection process, if overall travel time can be reduced. In fact, business people typically include the value of time saved by air travel and the increase in available productive time (rather than driving a car) as part of their assessment of the overall cost of alternate modes of travel. However, as stated above, service reliability has had an influence on modal selection.

Same day return is also a major factor in modal selection. Most business people believe air travel in the region should allow same day return, thus reducing overall travel time and travel costs (accommodations, meals). Provision of same day return justifies the price of an air ticket to the business community since such a service would permit more time in the office, as opposed to travel.

Although frequency of flights is of concern, business people recognize that demand does not always justify higher frequency. However, smaller aircraft operated more frequently could satisfy both convenience and frequency concerns with respect to regional travel.

Same Day Return

Same day return associated with business travel in the region is a major service requirement. Such service reduces time spent out of the office and increases productivity. In terms of travel to other regions of Canada, more specifically Ottawa, Montreal and Toronto, same day return is also important, although being able to complete a full day's business at the destination is of more importance. A number of business people, although stressing that same day return to these larger centres is desirable, felt that the provision of a full working day with one night away from home would be adequate. In other words, a level of service

which results in an evening flight to the destination with a return the following evening would be adequate for many long distance business trips. This could be considered a minimum level of service.

Arrival/Departure Time Criteria

During discussions relating to same day return, attempts were made to identify various departure/arrival time criteria associated with business trips. With travel either in the region or external to the region, earliest departure time from the origin is considered to be 7:00 a.m. while the desirable departure time is 8:00 a.m. Within the region or external to the region, six hours at the destination to conduct business is considered essential. A desirable return time from within the region is considered to be between 5:00 to 7:00 p.m. Desirable return time from Ottawa, Toronto, or Montreal is 8:00 p.m. The latest arrival time from any return trip is considered to be 11:00 p.m. A one hour connect time was considered reasonable for all flights.

Aircraft Type

Discussion with various business people in the focus groups, and those contacted over the telephone, were acutely aware that jet service is not feasible on most regional routes, and that turbo prop aircraft are more economical and suited for low density short haul routes. The major concern with small aircraft is the available space for leg and seating room. Turbo prop aircraft providing such space would be readily acceptable for regional short haul travel. An 8 to 10 seat aircraft would probably represent the smallest turbo prop with a Twin Otter or Dash 8 type aircraft more desirable. The HS 748 presently utilized by Air Maritime has somewhat of an image problem.

In-Flight Service

As might be expected, the provision of in-flight services for regional travel is not considered a necessity because of short flight times. The provision of newspapers/magazines and coffee would satisfy most in-flight service requirements.

Existing Problem Areas

As well as determining various criteria considered important in business travel, the discussions generated from the focus groups and telephone interviews also identified existing problems associated with air travel within the Atlantic Region and external to the region. These existing problem areas proved useful as input into the strategies for the improvement to air services phase of this project.

These existing problem areas identified by the focus group meetings and the telephone interviews include:

1). reliability of Air Maritime scheduled flights to/from Halifax;

2). poor service exists to Charlottetown and Sydney for same day return because of extended between flight times at the Halifax air terminal;

3). available seats to and from Moncton in peak times is considered a problem;

4). the image of the HS 748 is bad;

5). connection to Boston is poor;

6). long waits in Halifax on flights to/from St. John's and Sydney. One hour connect time is considered reasonable; and

7). air freighter service to Newfoundland is poor.

6.3.4 Selection of Service Points

Based on the comments received from the focus group meetings, and input from the Study Steering Committee, cities/towns to be included in the

development of demand estimates and alternative local air service route network scenarios were selected. These cities/towns included Moncton, Fredericton, Saint John, Sydney, Halifax and Charlottetown as the primary nodes and Bathurst, Charlo and St. Leonard as the secondary communities.

Demand estimates for a local air service have been developed utilizing these communities within four alternative route structure networks. These route structures are identified in Chapter 7.0.

6.3.5 Estimated Demand

As stated previously, a number of data inputs were utilized in estimating the demand for a local air service. These inputs included:

1). the Greater Moncton Chamber of Commerce Air Service Survey completed in 1984;

2). historical enplaned/deplaned passenger volumes;

3). historical origin/destination passenger volumes;

4). passenger forecast data prepared by Transport Canada;

5). previous service and air passenger experience at St. Leonard's airport;

6). recent applications for the provision of air service in Atlantic Canada;

7). the airport activity model developed for this project; and

8). information collected during the focus group meetings.

It should be noted that overall there is not a large demand for intra-regional air service. Many of the communities identified are within 240 kimometres of each other, and thus are within reasonable automobile travel times and costs. Any local service implemented, utilizing these communities within a route network, would have to operate with a very high degree of reliability and on-time performance.

For example, a trip between Fredericton and Bathurst, a distance of 250 kilometres, requires approximately 3 hours by automobile. Highway conditions are reasonably good most times of the year. By air the total travel time, including flight time, ground access times to and from the airport and passenger handling time would be approximately 2 to 2 1/4 hours. Automobile travel between Moncton and Fredericton or Moncton and Saint John requires 2 hours, while air travel would be approximately the same. Thus, it would be difficult to divert large volumes of existing surface travel to air.

Another important factor a local air service based in Moncton would have to contend with is competition. Presently both Air Nova and Air Atlantic have applied to implement Dash 8 service in the Atlantic Region on most major routes. Thus places like Moncton, Fredericton and Saint John will have the opportunity of direct service to Halifax from two separate and competing airlines. Any local air service could not realistically hope to capture any significant portion of this Halifax market.

Other applicants have been received to provide local air service between may of the communities identified above. If these airlines become a reality, there will be significant competition for a relatively small market share, a market dominated by the automobile.

Based on the above inputs, Table 6.3 has been prepared and summarizes in origin/destination format the demand estimates associated with the nine communities identified. These volumes were used as the basis for the development of strategies for improvement to air services.

Various route structure networks and associated revenue/cost characteristics are documented in Chapter 7.0.

Table 6.3

ESTIMATED ANNUAL PASSENGER ORIGIN/DESTINATION
VOLUME FOR A LOCAL AIR SERVICE NETWORK

Destination / Origin	YFC	YSJ	YQM	YYG	YQY	YHZ	YSL	YCL	ZBF
YFC	-	350	700	150	150	300	450	600	450
YSJ	350	-	300	150	350	300	150	-	-
YQM	700	300	-	450	600	900	225	300	450
YYG	150	150	450		-	-	-	-	-
YQY	150	350	600	-		-	-	-	-
YHZ	300	300	900	-	-	-	150	150	150
YSL	450	150	225	-	-	150	-	-	-
YCL	600	-	300	-	-	150	-		-
ZBF	450	-	450	-	-	150	-	-	-

City Codes

YQM	Moncton	YHZ	Halifax
YFC	Fredericton	YQY	Sydney
YSJ	Saint John	YCL	Charlo
YSL	St. Leonard	ZBF	Bathurst
YYG	Charlottetown		

7.0 EVALUATION OF LOCAL AIR SERVICE NETWORKS

7.1 Introduction

Following the focus group meetings with various business people in the Moncton area, and assessment of future market potential, a two tier list of cities/towns which would be included in the development of alternative local air service route network senarios was developed and approved by the Study Steering Committee. The primary or first tier of cities included Moncton, Fredericton, Saint John, Sydney, Halifax and Charlottetown. Three other communities, Bathurst, Charlo and St. Leonard were also included in a second route structure scenario.

Based on potential local air service demand associated with the various communities listed above, four separate air networks were developed and approved by the Steering Committee. Detailed operational and financial analysis were then produced. Figure 7.1 illustrates the four air service networks which were evaluated in detail. This first network (Network #1) includes only the six primary nodes, while the remaining three networks represent different route structures for air service to all nine communities previously selected.

The remainder of this chapter provides the detailed operational and financial components of each local air service network evaluated and shown in Figure 7.1. The actual analyses were completed by Mr. Clayton Glenn of C.H. Glenn Consultant Inc. based on the alternative route structures, associated passenger volumes and operational criteria provided by Fiander-Good Associates Ltd. The next two sections of this chapter summarize the various assumptions which were made and the methodology utilized to develop the detailed operational and financial plans for each air service network. This is followed by a discussion of results. The remaining sections to this chapter provide detailed operational and financial data for each of the air service networks evaluated and a conclusion based on the results.

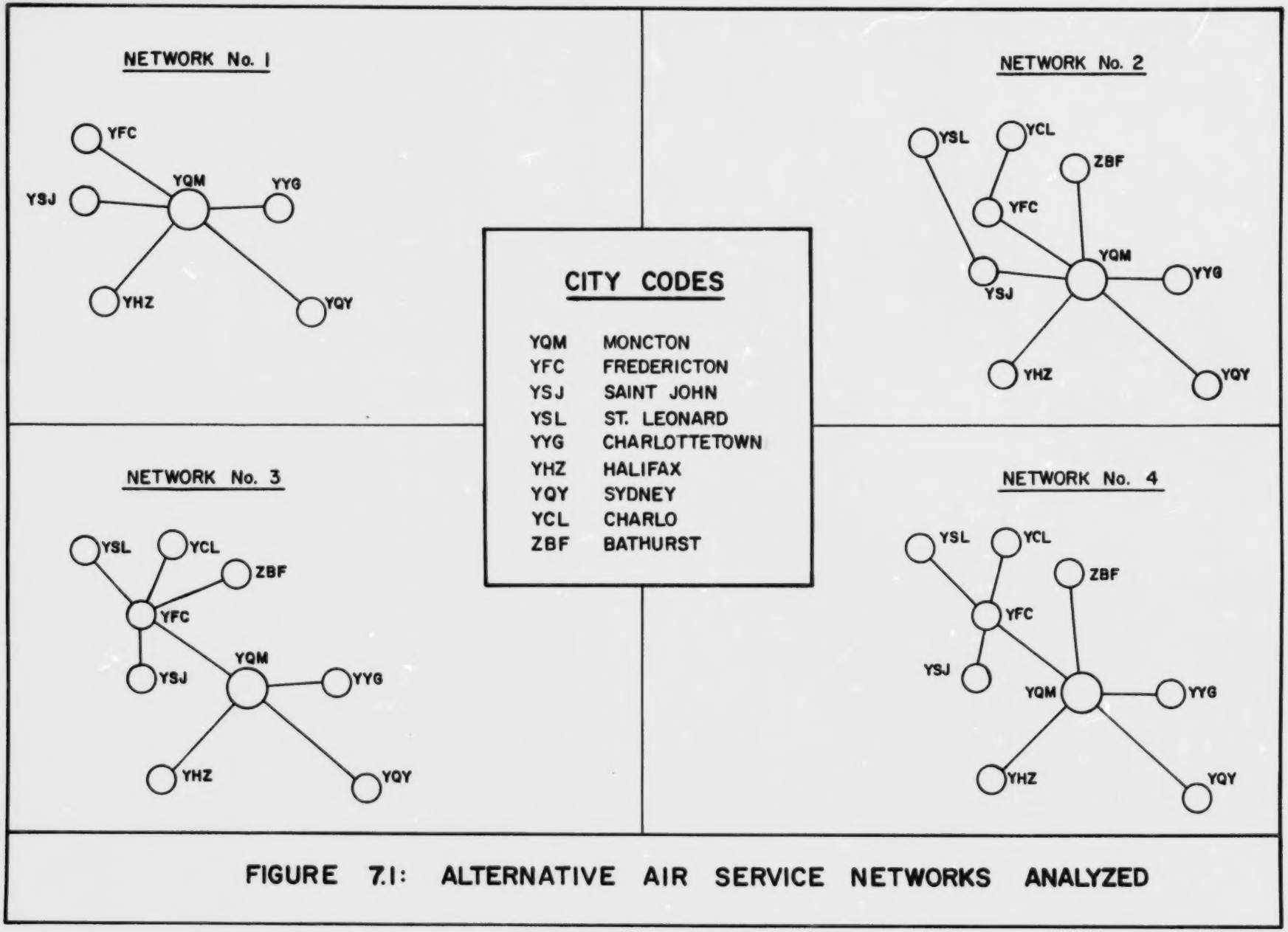


FIGURE 7.1: ALTERNATIVE AIR SERVICE NETWORKS ANALYZED

7.2 Assumptions

7.2.1 Introduction

A hypothetical airline, MONCTON AIR SERVICE, was set up in order to evaluate the various route structures. The "raison d'etre" of this airline was to cater to the needs of the local business traveller and not necessarily to connect with the mainline or regional carriers. Flight schedules for the various networks have been designed in a manner to give business people in the various communities the opportunity of carrying out a day's business without having to stay overnight.

An examination of the forecast passenger flow data showed that well known turboprop airplanes such as the Twin Otter or the Dash 8 would be far too large to meet the service requirements of the business traveller. Although these aircraft were included in the evaluations, it was also necessary to consider the use of smaller piston powered airplanes, even though these aircraft are somewhat slower and less comfortable than the turboprops.

The flight schedule is one of the most important components of any airline's financial performance. A schedule which operates at a minimum of cost and requires the least number of airplanes may not be the most convenient for the traveller and may not produce the desired revenue or return on investment. On the other hand, a schedule which may meet all the needs of the traveller and produce the desired amount of revenue, may be too costly to operate and require too high a capital investment. The schedule and the fares associated with an airline must, therefore, be a compromise between what is desired and what can be reasonably provided.

It is rare for an airline schedule to attract all the potential business travel, particularly where there are surface travel alternatives. None of the four networks studied could profitably carry the total number of forecast business travel at a fare level equivalent to that utilized in

the Air Nova application to provide service. As a result of schedule compromises, flights at times convenient to the traveller at the originating point may not produce convenient downline connections. For example, the business traveller arriving at Moncton on the first flight from Fredericton is too late to connect on the flight destined from Moncton to Sydney. The flight departure could not be delayed, as priority had to be given to the much larger volume of passengers from Moncton to Sydney than from Fredericton to Sydney. In this case the Fredericton passengers destined to Sydney would have the option of travelling on Air Nova or Air Atlantic. It is because of this type of situation that, for each of the four networks, the origin/destination passenger volumes have been reduced.

It can be appreciated that development of a new airline requires other assumptions to be made to enable detailed analyses to be performed. Each of these assumptions are discussed below under the appropriate sub headings.

7.2.2 Airline Characteristics

The assumption was made that MONCTON AIR SERVICES would have the characteristics of an "emerging" carrier as follows:

a). have a shortage of liquid funds and possible under capitalization;

b). use second-hand airplanes, either purchased or leased;

c). use non-union labour in order to keep down its operating costs;

d). subcontract out the maintenance and overhaul of its airplanes to specialist companies or large airlines;

e). subcontract out to specialists companies or other airlines the handling of passengers and airplanes on the ground;

f). have a flexible use of manpower (ie. staff may work in several different job categories);

g). sell airline tickets through travel agents rather than set up its own ticket offices; and

h). have loosely defined administration processes.

In the case of MONCTON AIR SERVICES it is assumed it will provide its own staff at the various stations and will capital lease its airplanes. The airline will concentrate on the local business market and will not specifically schedule its flights to connect with mainline, regional or other carriers, unless convenient.

7.2.3 Units

All costs and revenues included in the evaluation and documented in the various tables are in 1986 Canadian dollars. Link distances throughout the four alternative air service networks are in statue miles. Fuel consumption rates and costs are expressed in Imperial gallons.

7.2.4 Data Sources

Typical second hand airplane prices, seating in aircraft passenger cabins, typical engine over-haul costs and typical average time between overhauls were extracted from the Aircraft Bluebook Price Digest for small aircraft. The price of aviation gas was obtained from dealers in New Brunswick.

Data relating to cruising speed, payload and range of piston powered airplanes were obtained from Janes Aircraft of the World.

The following data were extracted from information supplied by other clients of C.H. Glenn Consultant Inc. during other projects:

- Dash 8 performance, price and maintenance costs;
- Twin Otter performance and maintenance costs;
- turbine fuel costs;
- food expense (where applicable) for short haul flights;
- travel agents' commissions;
- price elasticity and other commercial criteria;
- distribution of passengers by fare type;
- typical labour rates and employee productivities for "emerging" third level Canadian carriers; and
- "non-labour" direct and indirect operating expenses for Canadian third level carriers.

7.2.5 Airplane Prices, Seating and Crew Compliment

Table 7.1 summarizes the age, gross weight, engine type, cruising speed, passenger seating, average purchase price and annual lease rate per aircraft characteristics for various aircraft type utilized in the analyses. The costs are expressed in mid 1986 Canadian dollars. Each aircraft would have a cockpit crew compliment of two, with no cabin crew, except the Dash 8, which would have one cabin crew member.

7.2.6 Fleet Financing Characteristics

For the initial evaluation of networks and aircraft types, the assumption was made that 85 percent of the cost of airplanes and spares is financed at 13 percent for second hand airplanes (10 percent for the Dash 8) and

Table 7.1

AIRCRAFT OPERATING CHARACTERISTICS

Operating Characteristics	Piper PA23	Piper PA31	Cessna 402	Beech B80	DeHav DHC6	DeHav DHC8
Vintage	1978	1978	1978	1978	1978	New
Gross Weight (lbs)	5200	7000	6300	8800	12 500	33 000
Engine Type	Prop	Prop	Prop	Prop	TProp	TProp
Cruising Speed	210	255	220	225	200	300
Passenger Seating	4	8	8	9	19	36
Average Price ($000)	116	224	185	205	1 150	8 000
Annual Lease Rate* (per aircraft, $000's)	22.6	43.6	36.1	39.5	226.0	1 250.0

* Based on a capital lease at 13 percent for 8 years including spares for second hand piston airplanes and the DHC6 (Twin Otter).

Based on a capital lease at 10 percent including spares for the new Dash 8.

the remainder raised through equity. Airplanes are assumed to be acquired by capital leasing (based on 8 years for the second hand airplanes and 10 years for the Dash 8). For this study no depreciation expenses have been assumed.

Hull insurance has been computed on the basis of 4 percent per year of the replacement cost of each airplane. Passenger liability insurance has been computed on the basis of 1.28 cents per thousand revenue passenger miles.

7.2.7 Unit Costs

The basic unit costs per hour, per flight cycle and on a weekly basis are shown in Table 7.2 for Network #1 and in Table 7.3 for Networks #2, #3 and #4. Other costs not related to a particular airplane type are as follows (in terms of 1986 Canadian dollars):

a).	Jet A turbine fuel	$1.75 per Imperial gallon
b).	Aviation Gas	$2.68 per Imperial gallon
c).	food	$1.00 per passenger (Dash 8 only)
d).	reservation costs	$0.50 per passenger
e).	agents' commissions	9.5 percent of passenger revenue
f).	advertising expense	0.5 percent of passenger revenue
g).	hangar rental	$50.0 thousand per year
h).	general overhead	$0.15 million per year

i). cargo revenue is assumed at 1 percent of passenger revenue

Table 7.2

UNIT COSTS FOR AIR SERVICE NETWORK #1

UNIT FLYING COST FOR MONCTON AIR SERVICES FOR 1986

Aircraft Type	Weekly				Hourly	Cyclic		
	Flt.Cr.	Cab.Cr.	Cr.Cycl.	Mtc.Lab.	Mtc.Mat.	Mtc.Lab.	Mtc.Mat.	Lf&Gta.
DHC8	6 524	1 795	231	2 200	145.5	0	0	33.6
DHC6	5 385	0	231	2 000	65.8	0	0	10.0
B80	5 385	0	231	1 538	66.5	0	0	6.6
C402	5 385	0	231	1 538	36.0	0	0	6.6
PA31	5 385	0	231	1 538	48.1	0	0	6.6
PA23	4 487	0	231	1 538	42.0	0	0	6.6

Fuel - $Can./Gal. = 2.68 - Pass. Food = 0 $Can./Pass.

UNIT GROUND COSTS FOR MONCTON AIR SERVICES FOR 1986

Aircraft Type	Weekly					Cyclic	Hourly
	Pass.Grnd.		A/C Grnd.		Cargo	Contract	Other
	Non.Lab	Labour	Non.Lab	Labour	Labour	Labour	+Oil
DHC8	0	2 692	0	2 692	0	0	2.0
DHC6	0	2 692	0	2 692	0	0	1.5
B80	0	2 692	0	2 692	0	0	3.0
C402	0	2 692	0	2 692	0	0	3.0
PA31	0	2 692	0	2 692	0	0	3.0
PA23	0	2 692	0	2 692	0	0	2.5

LINE OVERHEAD COSTS FOR MONCTON AIR SERVICES FOR 1986

Aircraft Type	Weekly							
	A/C Svce.	Pass. Svce.	Gnd.Equ. Mtce	Mtce Burden	A/C Opn's	Infl't	Inv. Hdl	Hull Ins.
DHC8	1 923	0	0	373	0	0	0	24 615
DHC6	1 923	0	0	373	0	0	0	3 575
B80	1 923	0	0	373	0	0	0	625
C402	1 923	0	0	373	0	0	0	571
PA31	1 923	0	0	373	0	0	0	689
PA23	1 923	0	0	373	0	0	0	357

Table 7.3

UNIT COSTS FOR AIR SERVICE NETWORKS #2, #3 AND #4

UNITED FLYING COSTS FOR MONCTON AIR SERVICES FOR 1986

Aircraft Type	Weekly				Hourly	Cyclic		
	Flt.Cr.	Cab.Cr.	Cr.Cycl.	Mtc.Lab.	Mtc.Mat.	Mtc.Lab.	Mtc.Mat.	Lf&Gta.
DHC8	9 786	2 692	231	2 200	145.5	0	0	33.6
DHC6	8 077	0	231	2 000	65.8	0	0	10.0
B80	8 077	0	231	1 538	66.5	0	0	6.6
C402	8 077	0	231	1 538	36.0	0	0	6.6
PA31	8 077	0	231	1 538	48.1	0	0	6.6
PA23	6 731	0	231	1 538	42.0	0	0	6.6

Fuel - $Can./Gal. = 2.68 - Pass. Food = 0 $Can./Pass.

UNIT GROUND COSTS FOR MONCTON AIR SERVICES FOR 1986

Aircraft Type	Weekly				Cyclic	Hourly
	Pass.Grnd.		A/C Grnd.		Cargo	Contract	Other
	Non.Lab	Labour	Non.Lab	Labour	Labour	Labour	+Oil
DHC8	0	3 702	0	3 702	0	0	2.0
DHC6	0	3 702	0	3 702	0	0	1.5
B80	0	3 702	0	3 702	0	0	3.0
C402	0	3 702	0	3 702	0	0	3.0
PA31	0	3 702	0	3 702	0	0	3.0
PA23	0	3 702	0	3 702	0	0	2.5

LINE OVERHEAD COSTS FOR MONCTON AIR SERVICES FOR 1986

Aircraft Type	Weekly							
	A/C Svce.	Pass. Svce.	Gnd.Equ. Mtce	Mtce Burden	A/C Opn's	Infl't	Inv. Hdl	Hull Ins.
DHC8	1 923	0	0	373	0	0	0	36 923
DHC6	1 923	0	0	373	0	0	0	5 363
B80	1 923	0	0	373	0	0	0	938
C402	1 923	0	0	373	0	0	0	857
PA31	1 923	0	0	373	0	0	0	1 034
PA23	1 923	0	0	373	0	0	0	536

7.2.8 Cost Evaluation

Annual escalations in various airline cost components are assumed as follows:

a).	flight and cabin crew rates	4.0
b).	crew expenses (meals, taxi, etc)	4.0
c).	maintenance labour rates	5.0
d).	maintenance material and outside overhaul	7.0
e).	landing fees and general terminal assessments	5.5
f).	reservations, sales and advertising costs	4.0
g).	food (where applicable)	4.0
h).	fuel	4.0
i).	overhead	4.0
j).	fares	3.0

7.2.9 Fare Structure

Following the preliminary evaluation, local fares were adjusted to produce an acceptable rate of return for the carrier on the best network alternative and differs appreciably from those of the other carriers proposing service in the area. Regular economy passengers are assumed to represent 75 percent of the total, the remainder being discount passengers at 50 percent of the regular fares. The fare structure utilized throughout the analysis was approximately three times that proposed by Air Nova in their application to the Canadian Transport Commission.

7.2.10 Passenger Load Factor

As a result of the large percentage of regular economy (i.e. business passengers), both local and connecting, an average load factor of 50 percent has been set as an objective. With this load factor objective it is questionable whether a passenger reservation system is required. The only need for a reservation system would be to control the number of discount passengers so that the business traveller on a regular economy fare would generally be assured a seat.

7.2.11 Schedule Priorities

The assumption is made that the day-of-week characteristics of the business traveller will be similar to the profile shown in Figure 7.2. This curve is indicative of business travel in central Canada, and on basis of this characteristic being applicable to the Maritimes environment, the assumptions are made that:

a). No fewer than two round trips per day on any flight leg specified for the air service network alternatives will be operated.

b). No fewer than three days per week (Monday, Wednesday and Friday) will be operated. There would be no operations on Saturday or Sunday.

The assumption is made that the weekday hourly characteristics of the business traveller will be similar to the profile shown in Figure 7.3. This curve is indicative of business travel on short haul routes in central Canada and should be applicable to the Maritimes travel patterns. On the basis of this profile:

a). No flight will originate before 6:50 a.m. and no flight will terminate after 10:00 p.m.

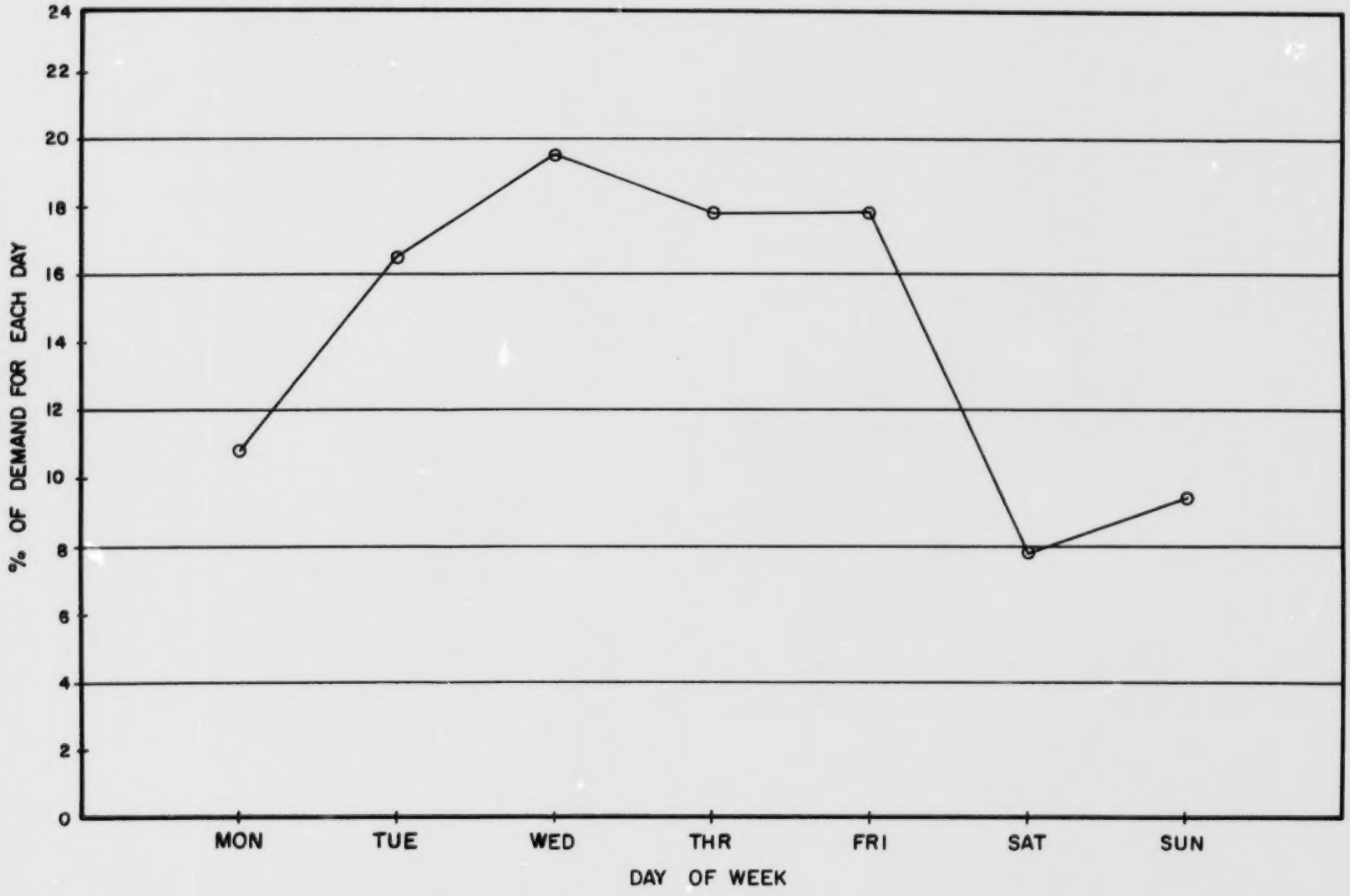


FIGURE 7.2: DAILY PASSENGER DEMAND FOR TYPICAL SHORT HAUL BUSINESS TRAFFIC

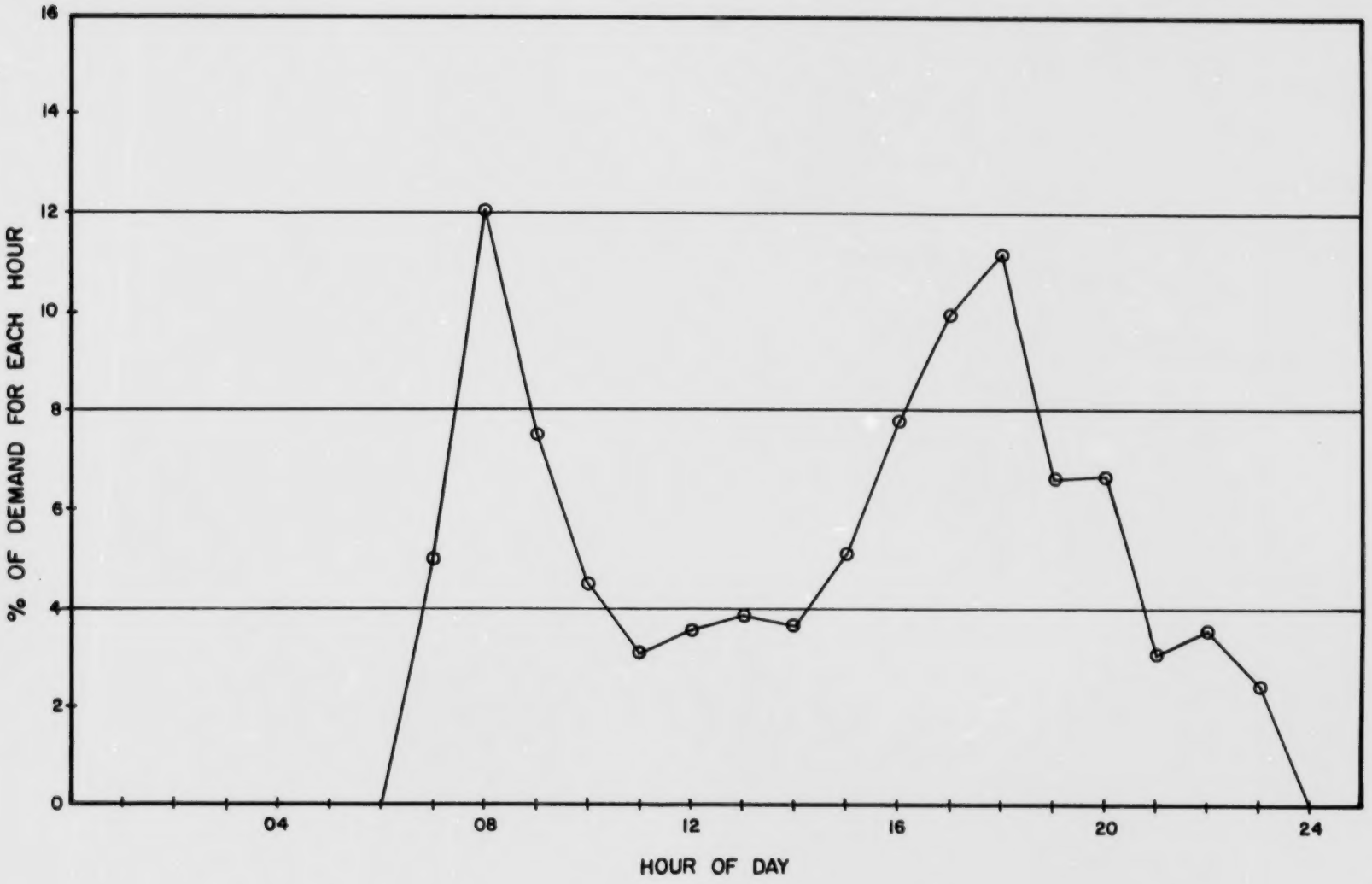


FIGURE 7.3: HOURLY WEEKDAY PASSENGER DEMAND FOR TYPICAL SHORT HAUL BUSINESS TRAFFIC

b). The first flights of the day will arrive at the priority destinations (see below), before 10:00 a.m.

During design of the airline and evaluation of the various route structures, the following markets received the highest priority in the direction specified. (This determines where the airplanes are parked overnight, the number of airplanes needed, and the number of flight crews required).

a). Moncton to Halifax

b). Fredericton to Moncton

c). Charlo to Fredericton

d). Moncton to Sydney

e). St. Leonard to Fredericton

f). Charlottetown to Moncton

g). Bathurst to Fredericton

h). Bathurst to Moncton

i). Fredericton to Saint John

j). Saint John to Moncton

7.2.12 Personnel

The number of employees depends on the air service network alternatives as follows:

	Network #1	Networks #2, #3 and #4
Cockpit crew (total)	10	14
Maintenance	5	5
Stations (except Moncton)	10	16
Moncton station	6	6
Headquarters including President	3	3
TOTAL	34	44

Annual wages and benefits range from $35 000 for a senior Captain down to $15 000 for a clerk. The president's salary is assumed to be $50 000 annually.

Flight crews will be based where aircraft overnight. Those based at Moncton will be expected to perform office work during the mid-day slack period.

7.3 Methodology

Six airplanes were selected for this study in order to provide a range of manufacturers, sizes and types. They are as follows:

DeHavilland Dash 8 (DHC8)

DeHavilland Twin Otter (DCH6)

Beech Queen Air (B80)

Cessna 402

Piper Chieftian (PA31)

Piper Aztec (PA23)

Initially, fares equivalent to those submitted by Air Nova in their application to extend services from Newfoundland to the Maritimes were used in order to determine the airline revenue. However, to generate a reasonable rate of return for a carrier to successfully operate, proposed Air Nova fares were approximately tripled.

Detailed operational and financial evaluations were completed utilizing a computer program called The Airline Simulation Model. The Airline Simulation Model was designed by experts in airline management and is intended for use in resolving the marketing, fleet, pricing and financial problems of any airline. The computer model is made up of nine interactive programs, however, all the built-in features need not be used.

In view of the fact that airline problems are complex, sophisticated models are required in order to examine the impact of all suggested corrective actions. The resolution of one problem invariably creates another and trade-offs or compromises must be made. Solutions for one airline may not necessarily be applicable to another. Similarly, no two airlines would be expected to have the same problems.

The Airline Simulation Model requires a data base covering:

a). Passenger origin/destination volumes for each season or on a yearly basis (i.e. how many passengers are currently travelling from City A to City B, etc.);

b). The seating, block fuel, block speed, maximum range, etc., for each of the current and new airplanes being examined;

c). Detailed unit cost information for various airline expense categories and projected changes in costs for new airplane types; and

d). Other air related characteristics.

The model can accommodate six airplane types at one time, including turboprops. Up to 300 pairs of points and approximately 20 separate regional networks can be built into the model, with total operating statistics and financial positions produced for each region.

The general methodology employed, using the Airline Simulation Model as the evaluation tool, was to:

a). Develop frequency patterns and time schedules based on the origin/destination passenger data;

b). Determine the number of passengers who could not connect to convenient flights and adjust the origin/destination passenger volumes accordingly;

c). Develop new frequency patterns and time schedules;

d). Determine the number of airplanes required, airline staff and other airline characteristics;

e). Design the airline required to operate the schedule;

f). Carry out financial evaluations for the six airplane types operating on the four networks;

g). Adjust the fares in order to produce reasonable financial results for the best airplane flying on the best network; and

h). Recalculate all network/airplane combinations.

7.4 Discussion of Results

A summary of the results of the evaluation are shown in Table 7.4. Only the airplanes best suited from a financial point of view are listed,

Table 7.4

STATISTICAL SUMMARY OF AIR SERVICE NETWORK ALTERNATIVES
(Based on the Aircraft Most Suitable for Each Network)

Operational or Financial	Network #1	Network #2	Network #3	Network #4
Manufacturer	Piper	Cessna	Piper	Piper
Aircraft Type	PA23	402	PA23	PA23
Flight Departures	4 576	5 408	7 488	7 488
Passengers	7 450	11 820	11 530	11 530
Load Factor (%)	49.7	38.2	48.6	48.7
Lease Expense ($000)	91	217	136	136
Revenue ($000)	1 378	2 305	2 168	2 155
Expenses ($000)	1 470	2 148	2 044	2 036
Income Before Tax ($000)	-92	157	124	119
Income Before Tax (% Rev.)	-6.7	6.8	5.7	5.5

although all six aircraft types were evaluated. In order to make one network profitable with the best suited airplane, it was necessary to increase the general fare levels to about three times those proposed by Air Nova in their application to extend their services from Newfoundland to the Maritimes.

Network # 1 (See Figure 7.1)

This network, which serves six of the nine communities, carries only 7 450 passengers per year out of a total potential 15 550. This is equivalent to approximately 32 one-way passengers (16 round trips) per business day. As can be seen from Table 7.4, even a fare structure triple that of the one proposed by Air Nova does not result in justification for setting up a complete airline involving four airplanes and a staff of 34. Even with the high fares, the airline flying this network would not produce a profit.

It is also questionable whether business travellers would accept flying in a small unpressurized piston powered airplane before and after carrying out a day's business at their destination.

Network #2 (See Figure 7.1)

This network serves all nine of the communities. Using the Cessna 402, an airline could produce a profit of $157 000 in its first year of operation (at three times the normal fares). It would carry only 26 round trip passengers per day, which would not be sufficient to set up a complete airline.

Networks #3 and #4 (See Figure 7.1)

These two networks show results similar to Network #2 and would fly the four seat Piper PA23.

There are several problems common to all four networks. They are:

1). There is an insufficient number of potential business travellers to justify setting up an airline.

2). The Moncton to Halifax route shows the largest single origin/destination passenger flow and represents a significant percentage of each network's activity. Yet two other carriers, Air Atlantic and Air Nova will soon be flying this leg, catering to the business passenger with new, pressurized Dash 8 airplanes. The loss of a large percentage of the local market by MONCTON AIR SERVICES would further deteriorate its financial position.

3). Because of the time-of-day and day-of-week demand profiles, airplanes and station staff are idle for 6 to 8 hours during the middle of the day. Productivity is extremely low and high passenger volumes would not cure the situation. With other airlines in the region flying, for example, between Newfoundland and the Maritimes, as well as on weekends, airplane and people productivity can be kept at a reasonably high level. Although second hand piston powered airplanes are relatively cheap and poor productivity does not materially affect the bottom line, the use of new turboprop airplanes, such as the Dash 8, could not be financially justified for MONCTON AIR SERVICES even with significant larger passenger volumes.

In order to illustrate the impact of labour and airplane productivity on total expenses the "pie charts" shown in Figure 7.4 were prepared. Table 7.5 describes the elements in each expense category shown on the "pie charts".

With the Cessna 402 on Network #2, the relatively low percentage of expenses associated with the leasing of the second hand airplanes can be observed. On the other hand, labour acccounts for a large percentage of the total expenses. For all the air service networks which were

FIGURE 7.4: RANGE OF EXPENSE DISTRIBUTIONS (NETWORK No. 2)

Table 7.5

ELEMENTS ASSOCIATED WITH THE
EXPENSE CATEGORIES SHOWN
IN FIGURE 7.4

Labour	-	All direct and indirect labour paid by the airline including employee benefits.
Material	-	All material used by the airline including the cost of contracting out the major overhaul of the airframe and the overhaul of engines and other components.
Fuel	-	The cost of aviation fuel and the cost of loading.
Lease Expenses	-	The expenses associated with leasing 85 percent of the cost of airplane and spares, assuming that 15 percent of the expense can be raised through equity.
Other	-	Includes landing fees, reservation expenses, airplane and passenger liability insurance, travel agent's commissions, advertising, rentals, crew travel expenses, hangar and office space rentals, passenger food (if applicable), etc.

evaluated, salary and wage scales were kept at about 60 percent of those for larger carriers. However, the lack of labour productivity creates a disproportionate percentage of the total operating expenses.

For the Dash 8 on the same network (Network #2), the actual labour expense is about the same as for the Cessna 402, but it represents a much lower percentage of the total expense. However, there is an excessive percentage of lease expenses for the Dash 8. This represents the low productivity of airplanes and an airplane too large for the route structure.

Because of the forecast business travel volume and the low labour and airplane productivity associated with an airline devoted only to the local business market, excessive fare levels would be required to make MONCTON AIR SERVICES profitable. The business community probably would not accept paying three times the fare normally charged by other carriers.

Scheduling flights to connect to mainline and regional carriers in order to increase the passenger volume would not be the answer, as connecting passengers yield lower than local fares, and a large increase in the load factor would be required.

In summary, the four air service networks evaluated would not make a profit in the first year unless the fares charged were three times those of Air Nova's proposed fares. It is very doubtful the business travellers would be willing to pay these fares. Thus if an airline were set up to provide local air service on any of the four air service networks shown in Figure 7.1, an operating subsidy would be required.

The level of this subsidy would depend on the route structure and the fare charged. Assuming an airline was set up and operated with a fare structure similar to that proposed by Air Nova, the first year operating subsidy required by the airline to break even would be as follows:

Network #1	$913 000
Network #2	1 215 000

Network #3	1 167 000
Network #4	1 165 000

These are relatively large deficits when the number of passengers served by each network is considered. If it is assumed revenues and costs would increase at the same rate annually, then it would require a 10 percent annual growth rate in passengers over a 10 year period before networks #2, #3 and #4 would break even. Network #1 would break even in 8 years with the same conditions. The 10 percent annual growth rate should be considered very optimistic.

7.5 Individual Air Service Network Operational and Financial Characteristics

7.5.1 Network # 1

The Network #1 alternative for MONCTON AIR SERVICES is shown in Figure 7.5 and the flight schedules for the various airplane types are shown in Figures 7.6 and 7.7. The origin/destination passenger flows shown in Table 7.6 are substantially reduced from that shown in Table 6.3 due to the schedule and as a result of the points not served (St. Leonard, Charlo, and Bathurst). The inability to provide convenient connections at Moncton (those marked with an asterisk in Table 7.6) reflects the problem with all airlines in trying to provide a maximum of service to the traveller with a minimum of resources. Only 48 percent of the total forecast origin/ destination passengers can be carried on Network #1.

The point of origin of each airplane in the morning should be noted on the schedules shown in Figures 7.6 and 7.7 . Airplanes overnight at Saint John, Fredericton and Moncton. In order to move the business person to his desired destination for a full day's work, and to be able to return home the same day, requires the use of four airplanes and four active flight crews.

The round trip frequencies for the various airplane types are shown in Table 7.7 and these frequencies reveal the impact of airplane size. The Piper PA23 (Aztec), which has only four seats, provides two round trips

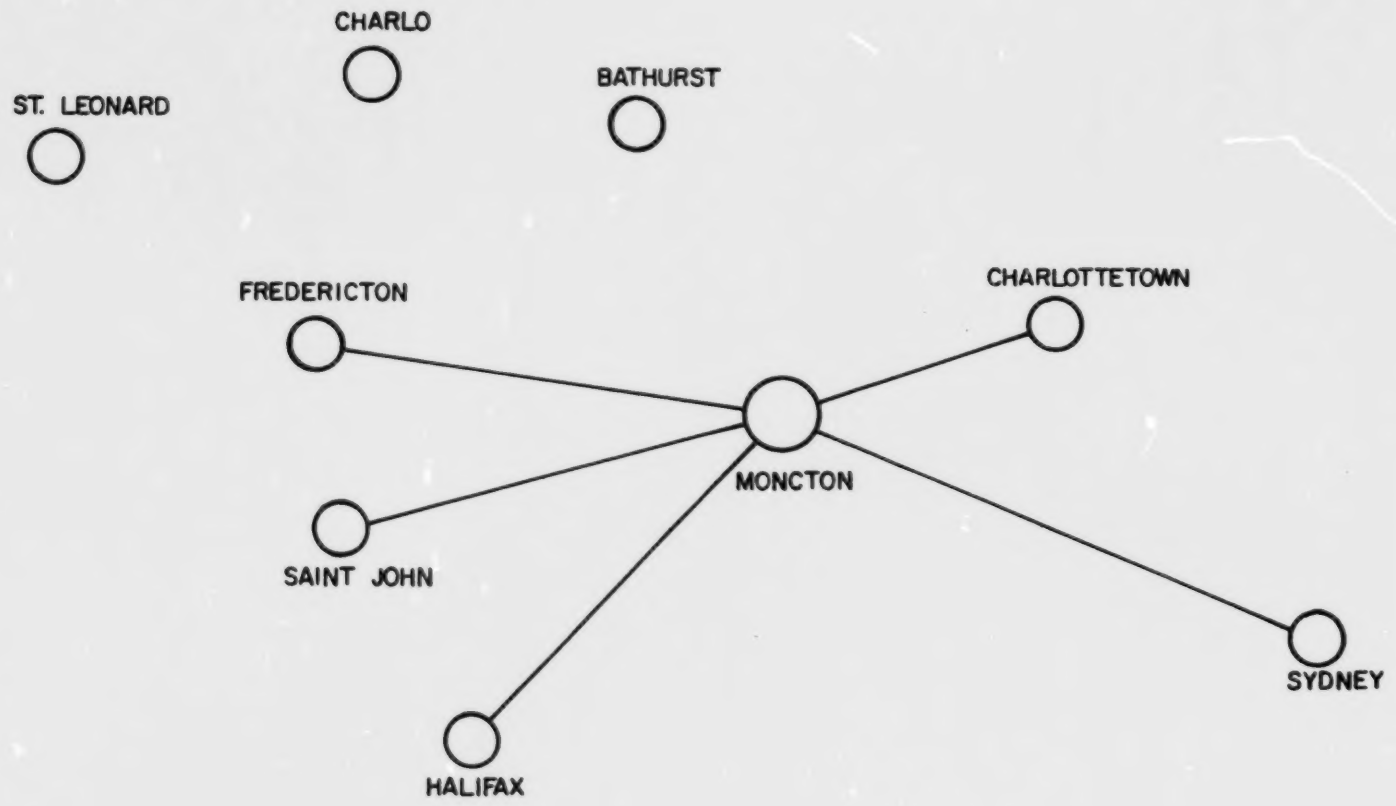
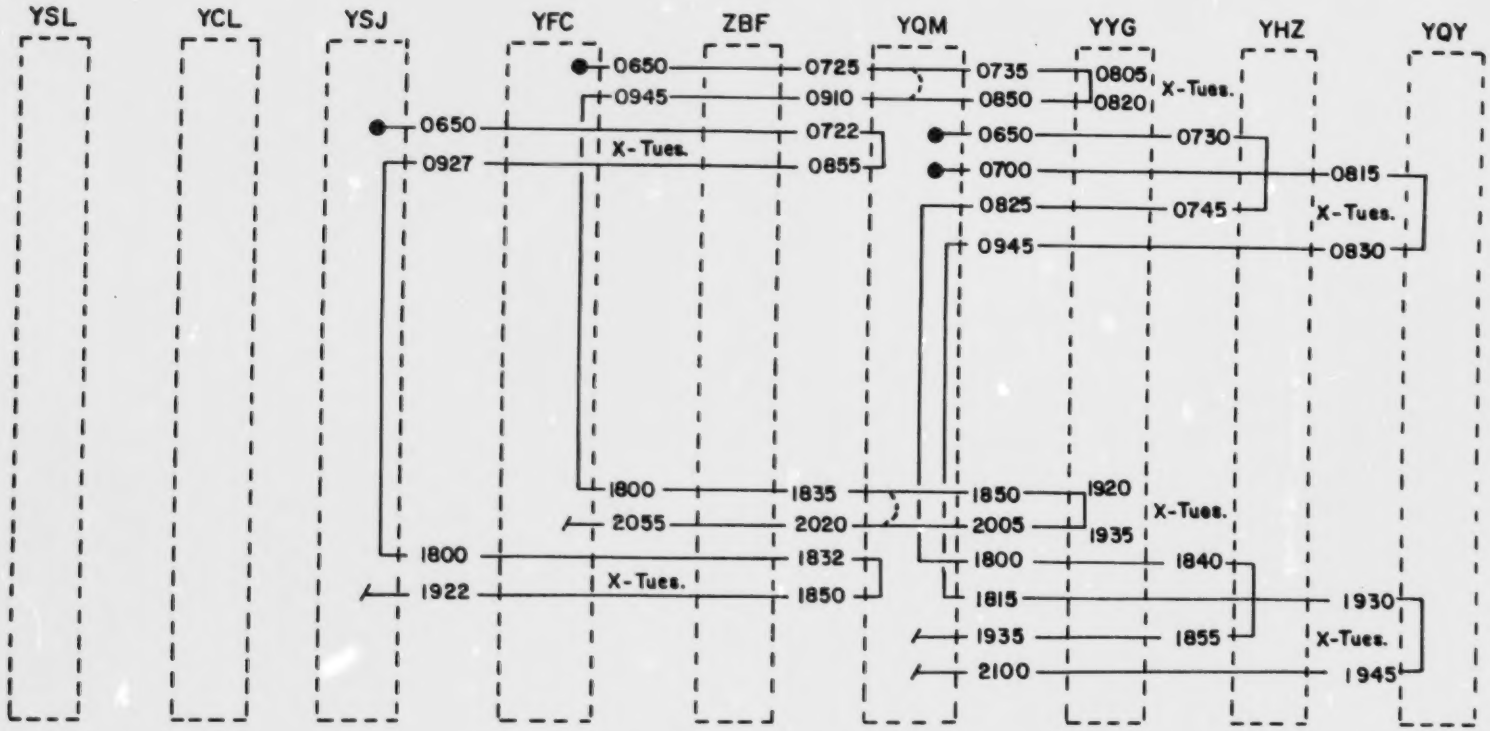


FIGURE 7.5: AIR SERVICE NETWORK No. 1



CITY CODES

YQM	MONCTON
YFC	FREDERICTON
YSJ	SAINT JOHN
YSL	ST. LEONARD
YYG	CHARLOTTETOWN
YHZ	HALIFAX
YQY	SYDNEY
YCL	CHARLO
ZBF	BATHURST

FIGURE 7.6: NETWORK No. 1 FLIGHT SCHEDULE
PIPER AZTEC (PA 23)

(MONDAY THROUGH FRIDAY EXCEPT AS NOTED)

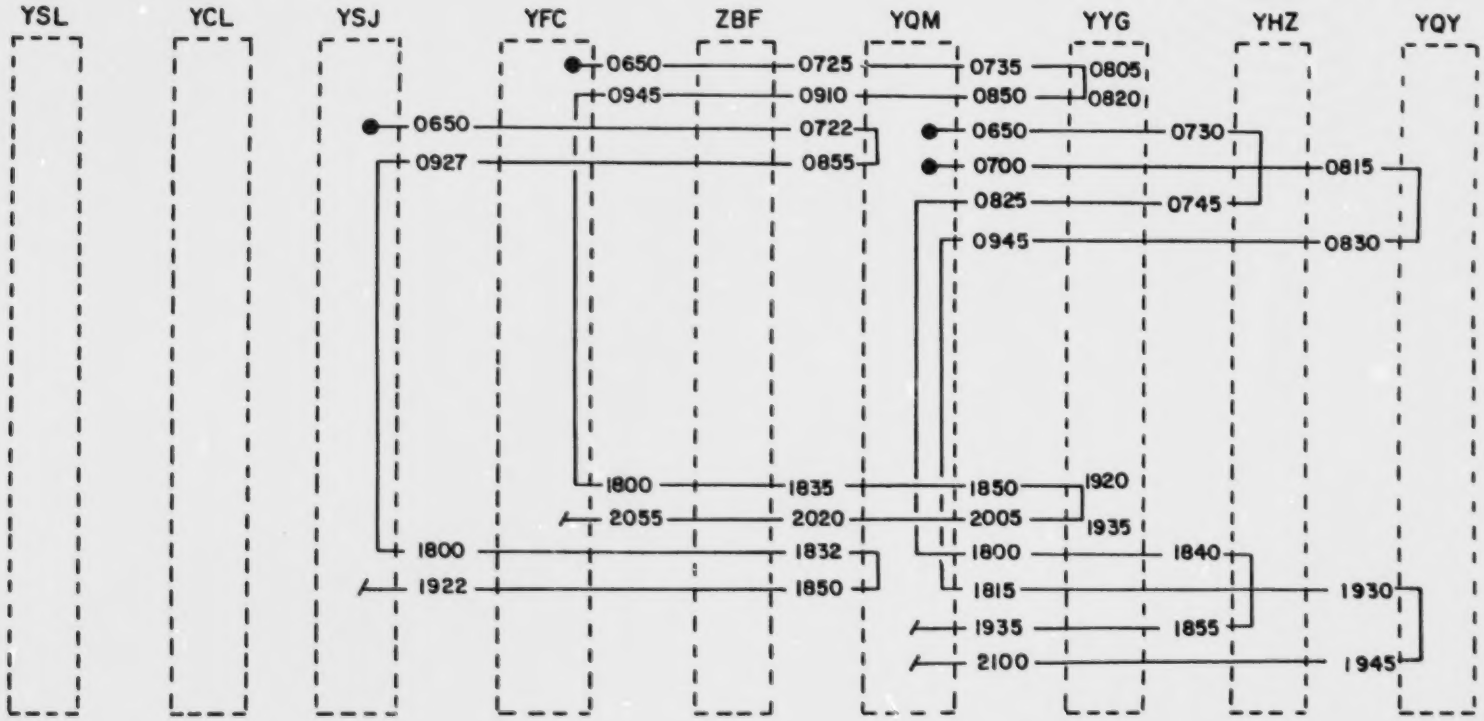


FIGURE 7.7: NETWORK No. I FLIGHT SCHEDULE
PIPER PA31, CESSNA 402, BEECH 80, DeHAVILLAND TWIN OTTER & DASH 8
(MONDAY, WEDNESDAY & FRIDAY)

CITY CODES

YQM	MONCTON
YFC	FREDERICTON
YSJ	SAINT JOHN
YSL	ST. LEONARD
YYG	CHARLOTTETOWN
YHZ	HALIFAX
YQY	SYDNEY
YCL	CHARLO
ZBF	BATHURST

Table 7.6

ANNUAL PASSENGER ORIGIN/
DESTINATION DATA

NETWORK #1

Destination / Origin	YFC	YSJ	YQM	YYG	YQY	YHZ	YSL	YCL	ZBF
YFC		75*	700	150	75*	75*	0	0	0
YSJ	75*		300	150	175*	75*	-	-	-
YQM	700	300		450	600	900	0	0	0
YYG	150	150	450		-	-	-	-	-
YQY	75*	175*	600	-		-	-	-	-
YHZ	75*	75*	900	-	-		0	0	0
YSL	0	0	0	-	-	0		-	-
YCL	-	0	0	-	-	0	-		-
ZBF	0	-	0	-	-	0	-	-	

- No Data Provided
0 No Service in this Network
* Reduced due to Schedule

City Codes

YQM	Moncton	YHZ	Halifax
YFC	Fredericton	YQY	Sydney
YSJ	Saint John	YCL	Charlo
YSL	St. Leonard	ZBF	Bathurst
YYG	Charlottetown		

Table 7.7

ROUND TRIP FREQUENCIES PER WEEK

NETWORK #1

Route Leg	Piper PA23	Piper PA31	Cessna 402	Beech B80	DeHav DHC6	DeHav DHC8
YQM - YHZ	10*	6	6	6	6	6
YQM - YQY	8	6	6	6	6	6
YQM - YYG	8	6	6	6	6	6
YQM - YFC	10	6	6	6	6	6
YQM - YSJ	8	6	6	6	6	6

* 10 Means 2 Round Trips Daily, Monday through Friday

City Codes

YQM	Moncton	YHZ	Halifax
YFC	Fredericton	YQY	Sydney
YSJ	Saint John	YCL	Charlo
YSL	St. Leonard	ZBF	Bathurst
YYG	Charlottetown		

per day, five days per week on two of the route legs; Moncton to Halifax and Moncton to Fredericton. Service on the other three routes is only provided four days per week. The larger airplanes, the eight seat Piper PA31 and Cessna 402, the nine seat Beech B80, the nineteen seat Twin Otter and the thirty-six seat Dash 8, would provide two round trips daily on only three days of the week. This would represent the minimum desirable service level.

The annual operating and financial statistics for this air service network alternative are shown in Table 7.8. From Table 7.8 the powerful impact of passenger load factor on profitability can be observed. The Twin Otter and the Dash 8, due to their large size would operate at 15.1 and 8 percent load factor, respectively, producing very large losses. Due to the requirement of providing early morning service the number of airplanes required is the same (i.e. independent of the size). Therefore, the Twin Otter and the Dash 8 are much too large to be considered for operational duties on Network #1.

The airplanes best suited for Network #1 are the Piper PA23 and the Cessna 402, although neither produce a profit. The financial details for these airplanes are shown in Tables 7.9 and 7.10.

7.5.2 Network #2

The air service Network #2 route structure for MONCTON AIR SERVICES is displayed in Figure 7.8 and the flight schedules for the various aircraft types are shown in Figures 7.9, 7.10 and 7.11. The origin/destination passenger flows are shown in Table 7.11. The volumes are reduced from those shown in Table 6.3, although to not as great an extent as Network #1. All the points are served, however, not all passengers can obtain suitable connections at Moncton and Fredericton. St. Leonard, which has a relatively large number of business travellers destined to Fredericton, has no non-stop service to this airport. Routing through Saint John and Moncton would cause virtually no passengers to use MONCTON AIR SERVICES. About 76 percent of the forecast origin/ destination passengers can be carried on Network #2.

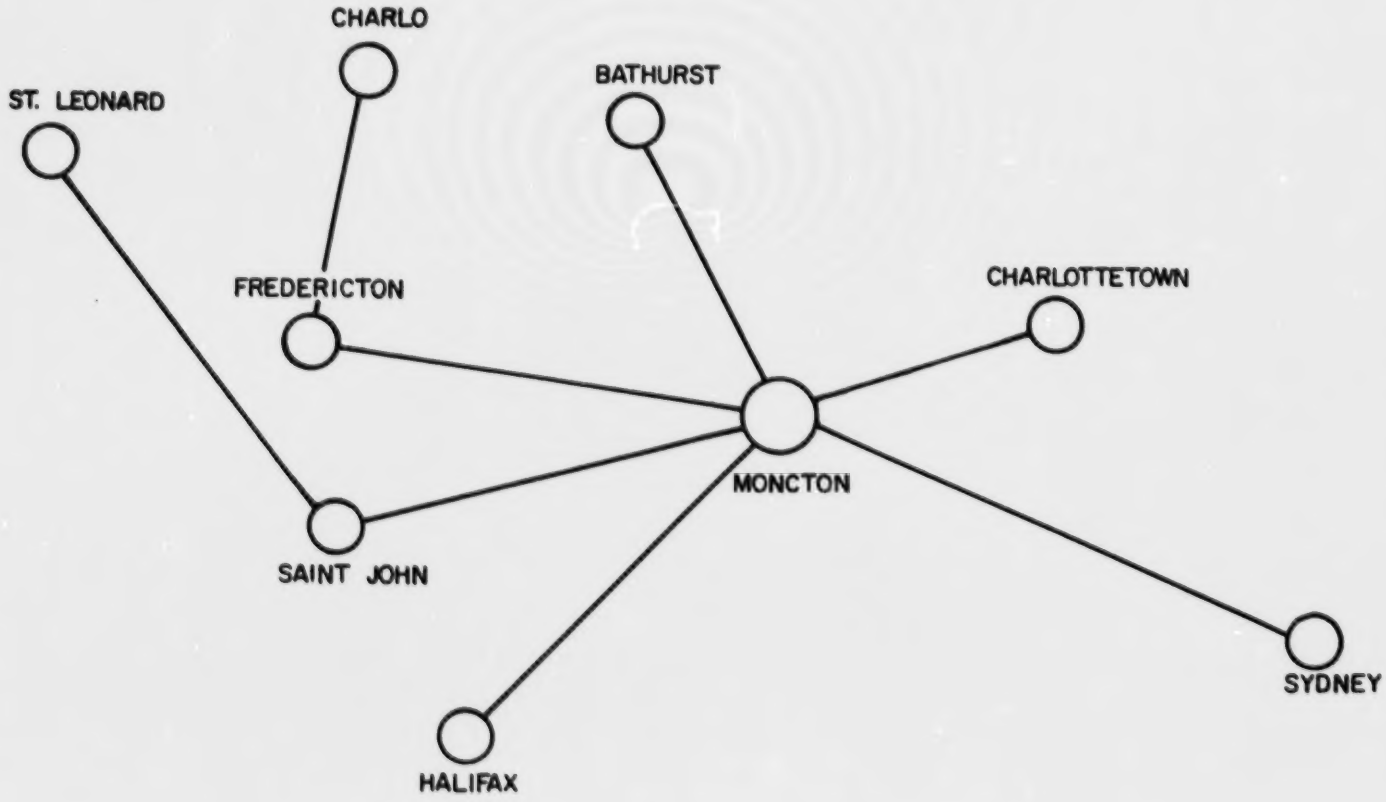
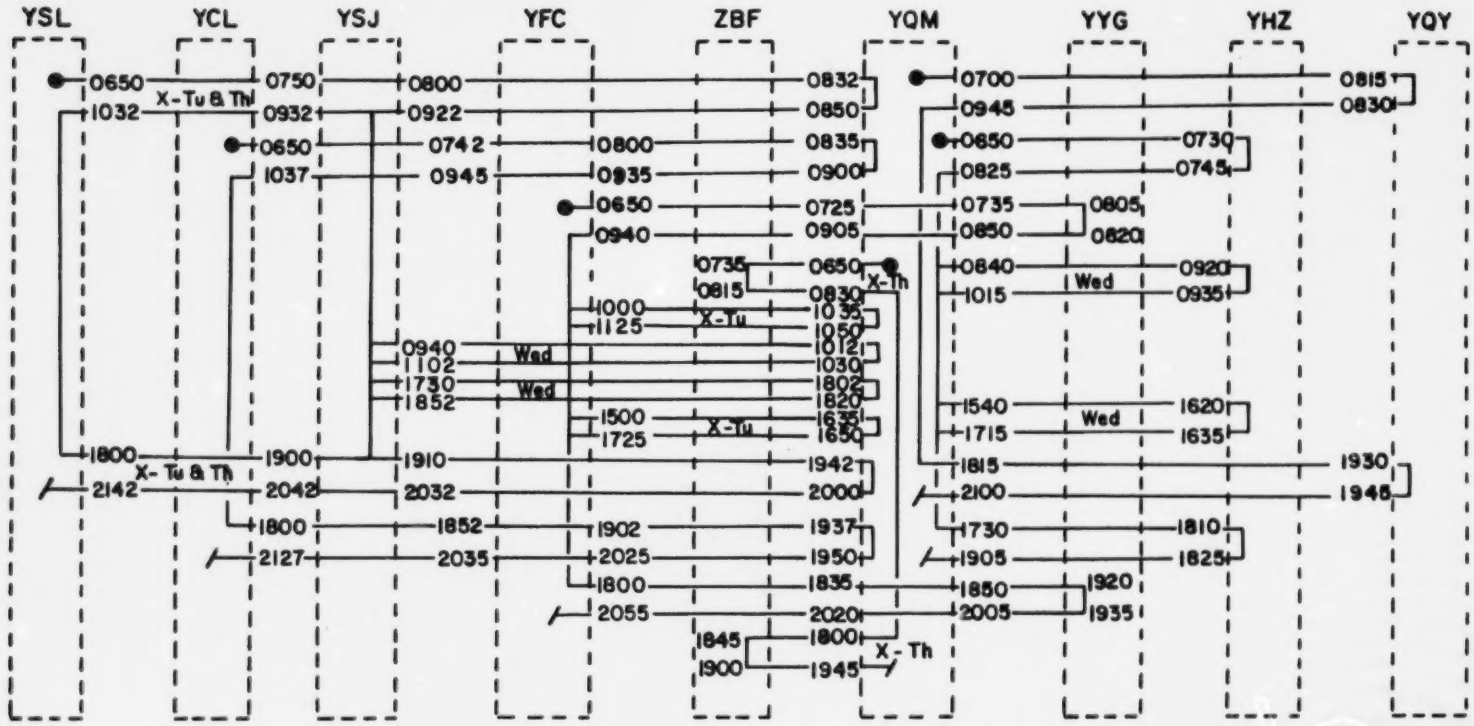


FIGURE 7.8: AIR SERVICE NETWORK No. 2



CITY CODES

YQM	MONCTON
YFC	FREDERICTON
YSJ	SAINT JOHN
YSL	ST. LEONARD
YYG	CHARLOTTETOWN
YHZ	HALIFAX
YQY	SYDNEY
YCL	CHARLO
ZBF	BATHURST

FIGURE 7.9: NETWORK No. 2 FLIGHT SCHEDULE

PIPER AZTEC (PA 23)

(MONDAY THROUGH FRIDAY EXCEPT AS NOTED)

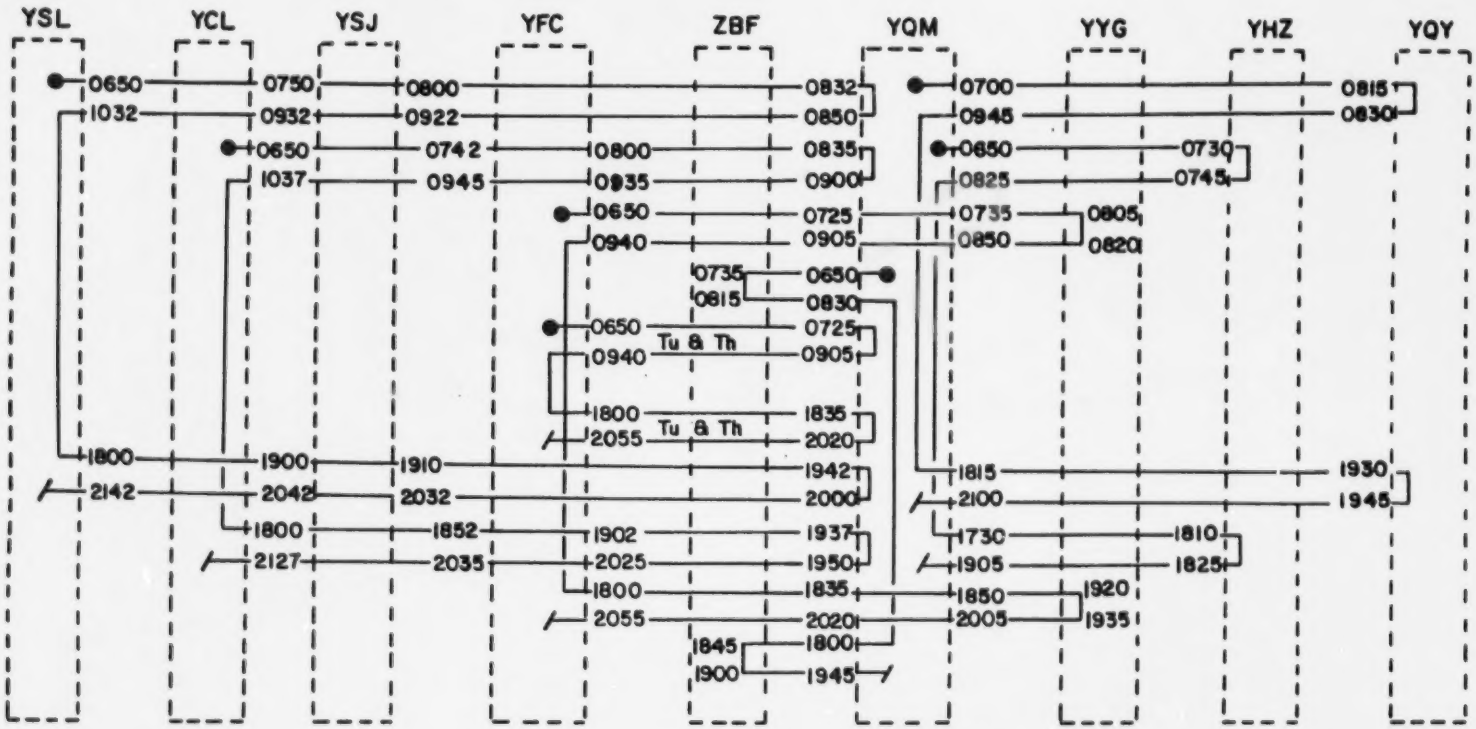


FIGURE 7.10: NETWORK No. 2 FLIGHT SCHEDULE

PIPER PA31, CESSNA 402 & BEECH 80

(MONDAY, WEDNESDAY & FRIDAY EXCEPT AS NOTED)

CITY CODES

YQM	MONCTON
YFC	FREDERICTON
YSJ	SAINT JOHN
YSL	ST. LEONARD
YYG	CHARLOTTETOWN
YHZ	HALIFAX
YQY	SYDNEY
YCL	CHARLO
ZBF	BATHURST

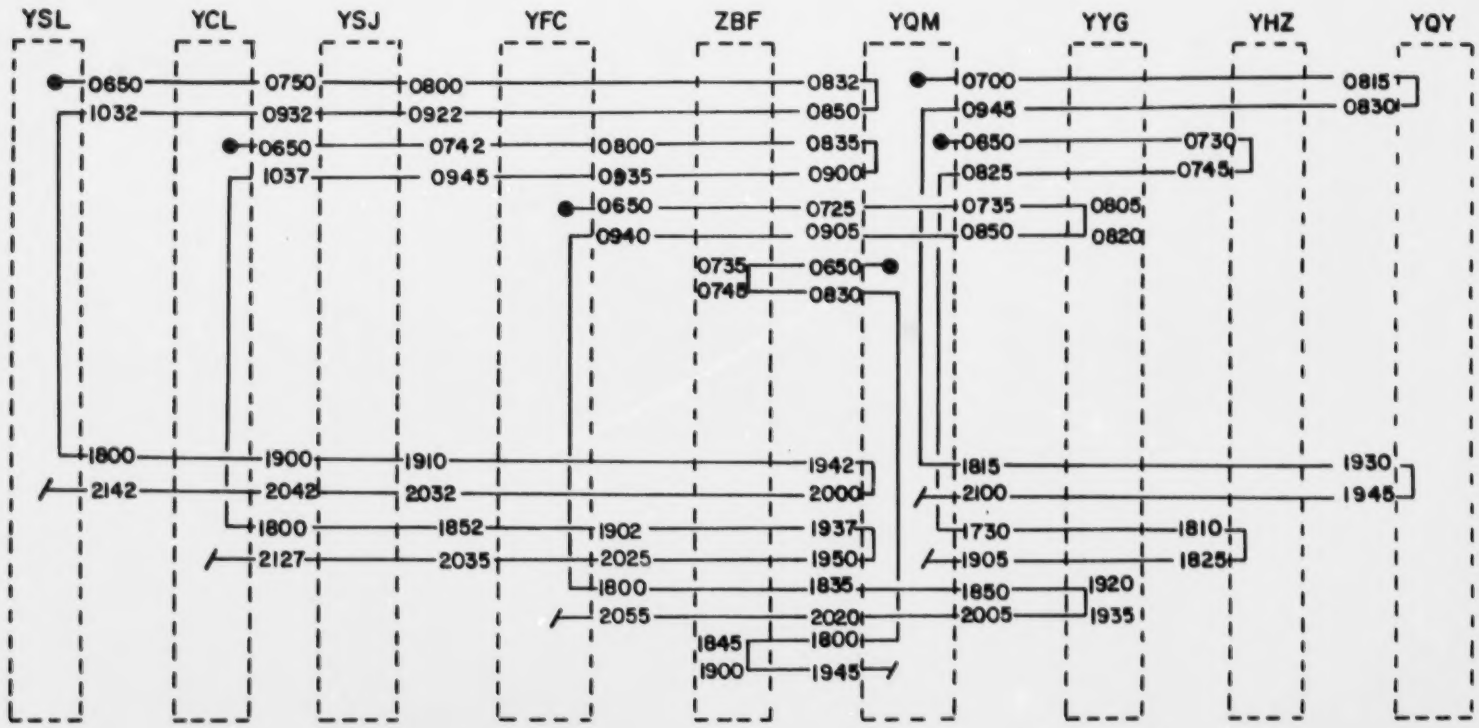


FIGURE 7.11: NETWORK No. 2 FLIGHT SCHEDULE

DeHAVILLAND TWIN OTTER & DASH 8

(MONDAY, WEDNESDAY & FRIDAY)

CITY CODES

YQM	MONCTON
YFC	FREDERICTON
YSJ	SAINT JOHN
YSL	ST. LEONARD
YYG	CHARLOTTETOWN
YHZ	HALIFAX
YQY	SYDNEY
YCL	CHARLO
ZBF	BATHURST

Table 7.8

OPERATING AND FINANCIAL STATISTICS - ANNUAL

NETWORK #1

Criteria	Piper PA23	Piper PA31	Cessna 402	Beech B80	DeHav DHC6	DeHav DHC8
Flight Departures	4 576	3 120	3 120	3 120	3 120	3 120
Block Hours	3 182	1 893	2 430	2 080	2 194	2 007
Fleet Size	4	4	4	4	4	4
Passengers	7 450	7 450	7 450	7 450	7 450	7 450
Passenger Enplanements	8 978	8 978	8 978	8 978	8 978	8 978
Load Factor (%)	49.7	35.9	35.9	31.9	15.1	8.0
Lease Expense ($000)	91	175	144	158	905	5 032
Revenue ($000)	1 378	1 378	1 378	1 378	1 378	1 378
Expenses ($000)	1 470	1 613	1 498	1 640	2 660	8 425
Income Before Tax ($000)	-92	-247	-120	-262	-1 282	-7 047

Table 7.9

FINANCIAL SUMMARY - NETWORK #1

Piper Aztec (PA23)

Direct Costs for Moncton Air Services for 1986

($ 000's 1986)

Aircraft Type	Labour	Material	Other	Lf/Gta/Nav	Fuel	Dep'n	Leases	Total
PA23	313.3	133.7	20	30.2	159.7	0	90.5	747.4
Total	313.3	133.7	20	30.2	159.7	0	90.5	747.4

Passenger Food	=	.0
Passenger Commissions	=	129.6
Total Variable	=	877.1

Allocated Overhead Expenses for Moncton Air Service for 1986

Line Overhead (Fixed)	=	399.4
Line Overhead (Hourly)	=	.0
Grnd Hdl and Res.	=	4.5
Interest	=	.0
Hull and Passenger Insurance	=	31.8
Sales Overhead	=	.0
Advertising	=	6.8
Pl. & Administration (Fixed)	=	150.0
Total Allocated Expenses	=	592.4
Total Fully Allocated Expenses	=	1 469.5
Passenger Revenue	=	1 364.4
Cargo Revenue	=	13.6
Contribution	=	-91.5
Op. Margin (Approx. %)	=	neg.

Table 7.10

FINANCIAL SUMMARY - NETWORK #1

CESSNA 402

Direct Costs for Moncton Air Services for 1986

($ 000's 1986)

Aircraft Type	Labour	Material	Other	Lf/Gta/Nav	Fuel	Dep'n	Leases	Total
C402	360	75.8	18.3	20.6	145.6	0	144.4	764.7
Total	360	75.8	18.3	20.6	145.6	0	144.4	764.7

Passenger Food	=	.0
Passenger Commissions	=	129.6
Total Variable	=	894.3

Allocated Overhead Expenses for Moncton Air Service for 1986

Line Overhead (Fixed)	=	399.4
Line Overhead (Hourly)	=	.0
Grnd Hdl and Res.	=	4.5
Interest	=	.0
Hull and Passenger Insurance	=	42.9
Sales Overhead	=	.0
Advertising	=	6.8
Pl. & Administration (Fixed)	=	150.0
Total Allocated Expenses	=	603.6
Total Fully Allocated Expenses	=	1 497.9
Passenger Revenue	=	1 364.4
Cargo Revenue	=	13.6
Contribution	=	-119.9
Op. Margin (Approx. %)	=	neg.

Table 7.11

ANNUAL PASSENGER ORIGIN/
DESTINATION DATA

NETWORK #2

Destination / Origin	YFC	YSJ	YQM	YYG	YQY	YHZ	YSL	YCL	ZBF
YFC		75*	700	150	75*	75*	10	600	225*
YSJ	75*		300	75*	350	175*	150	75*	450
YQM	700	300		450	600	900	225	300	450
YYG	75*	150	450		-	-	-	-	-
YQY	75*	175*	600	-		-	-	-	-
YHZ	75*	75*	900	-	-		75*	75*	75*
YSL	10*	150	225	-	-	75*		-	-
YCL	600	75*	300	-	-	75*	-		-
ZBF	225*	-	450	-	-	75*	-	-	

- No Data Provided
0 No Service in this Network
* Reduced due to Schedule

City Codes

YQM	Moncton	YHZ	Halifax
YFC	Fredericton	YQY	Sydney
YSJ	Saint John	YCL	Charlo
YSL	St. Leonard	ZBF	Bathurst
YYG	Charlottetown		

The operational and financial statistics summarized in Table 7.12 include "passenger enplanements". This value represents the total number of passengers occupying seats on departing flights, regardless of whether they are originating, transmitting or connecting passengers. The ratio of the total origin/destination passengers to the total enplaned passengers represents the efficiency of the schedule. If all the passengers could fly to their destinations on non-stop flights, the efficiency would be 100 percent. In the case of Network #2 only 70 percent travel without an intermediate stop or a connection.

The schedules displayed in Figures 7.9, 7.10 and 7.11 require aircraft to overnight at St. Leonard, Charlo, Fredericton and Moncton. A total of six airplanes are necessary to operate this network, regardless of seating configuration.

The round trip frequencies for the various aircraft types are shown in Table 7.13 and clearly reveal the impact of airplane size. The Piper PA23 (Aztec), which has only four seats, provides at least two round trips per day, five days per week on all but two of the route legs. Fredericton to Moncton would have four round trips per day, Monday through Friday. St. Leonard to Saint John could support service on only three days per week. On the other hand Charlo to Fredericton has service five days per week. As with Network #1 the larger airplanes (the eight seat Piper PA23 and Cessna 402, the nine seat Beech B80, the nineteen seat Twin Otter and the thirty-six seat Dash 8) would provide reduced frequency of operation.

The operational and statistical results shown in Table 7.12 show the significant impact of passenger load factor on profitability. The Twin Otter and the Dash 8, because of their large size, would operate at 17 and 9 percent load factor, respectively. Because of the requirement to produce early morning service, the number of airplanes required is the same (i.e. independent of the size). The Twin Otter and the Dash 8 are too large to be realistically considered for Network #2.

Table 7.12

OPERATING AND FINANCIAL STATISTICS - ANNUAL

NETWORK #2

Criteria	Piper PA23	Piper PA31	Cessna 402	Beech B80	DeHav DHC6	DeHav DHC8
Flight Departures	8 763	5 408	5 408	5 408	4 992	4 992
Block Hours	6 406	3 479	3 884	3 832	3 801	3 422
Fleet Size	6	6	6	6	6	6
Passengers	11 820	11 820	11 820	11 820	11 820	11 820
Passenger Enplanements	16 896	16 896	16 896	16 896	16 896	16 896
Load Factor (%)	48.5	38.2	38.2	33.9	17.0	9.0
Lease Expense ($000)	136	262	217	237	1 376	7 548
Revenue ($000)	2 305	2 305	2 305	2 305	2 305	2 305
Expenses ($000)	2 189	2 347	2 148	2 405	3 901	12 610
Income Before Tax ($000)	116	-42	157	-100	-1 595	-10 305

Table 7.13

ROUND TRIP FREQUENCIES PER WEEK
NETWORK #2

Route Leg	Piper PA23	Piper PA31	Cessna 402	Beech B80	DeHav DHC6	DeHav DHC8
YQM - YHZ	14*	6	6	6	6	6
YQM - YQY	10	6	6	6	6	6
YQM - YYG	8	6	6	6	6	6
YQM - YFC	20	10	10	8	6	6
YQM - YSJ	12	6	6	6	6	6
YSJ - YSL	6	6	6	6	6	6
YFC - YCL	10	6	6	6	6	6
YQM - ZBF	10	6	6	6	6	6

* 14 Means 2 Round Trips Daily, Monday through Friday
Plus Added Round Trips on Two Days

City Codes

YQM	Moncton	YHZ	Halifax
YFC	Fredericton	YQY	Sydney
YSJ	Saint John	YCL	Charlo
YSL	St. Leonard	ZBF	Bathurst
YYG	Charlottetown		

The fare structure used in the Network #2 analysis was the one developed to make one of the airplane types profitable (in this case the Cessna 402). This fare structure is approximately three times that proposed by Air Nova in their application. In spite of the low load factor the Cessna 402 is financially better suited to Network #2 than the Piper PA23. Over the years, as passenger volumes grow, the profitability of this aircraft would improve as a result of an increase in the load factor.

The financial details for the Piper PA23 and the Cessna 402 are shown in Tables 7.14 and 7.15.

7.5.3 Network #3

The air service Network #3 route structure for MONCTON AIR SERVICES is shown in Figure 7.12 and the flight schedules for the various aircraft types are shown in Figures 7.13, 7.14 and 7.15. The origin/destination passenger flows shown in Table 7.16 have been reduced from those shown in Table 6.3. All nine communities are served, however, not all passengers can obtain suitable connections at Moncton and Fredericton. About 74 percent of the forecast origin/destination passengers can be carried on Network #3, slightly less than Network #2. A review of Figures 7.13, 7.14 and 7.15 indicate that aircraft must overnight at St. Leonard, Charlo, Fredericton and Moncton to accommodate same day return requirements. A total of six airplanes is required to operate this network, regardless of seating configuration.

The round trip frequencies for the various airplane types are shown in Table 7.17 and reflect the impact of airplane size. The Piper PA23 (Aztec) which has only four seats, provides at least two round trips per day, five days per week on two of the route legs, two round trips per day for four days per week on three of the routes and two round trips per day, three days per week on the remaining two routes. Service in general is not as good as in Network #2, although the ratio of passengers carried to passenger enplanements is 80 percent, which is higher than Network #2.

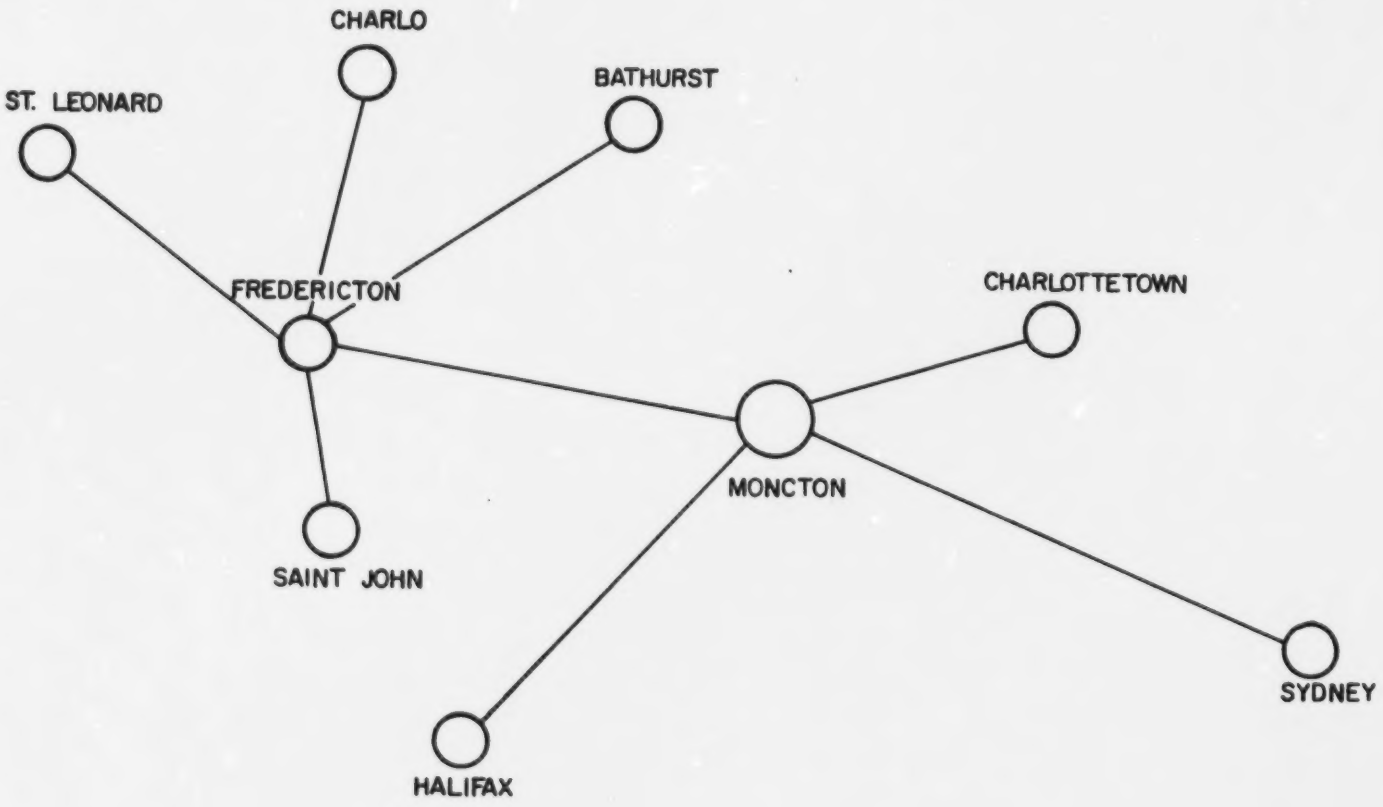
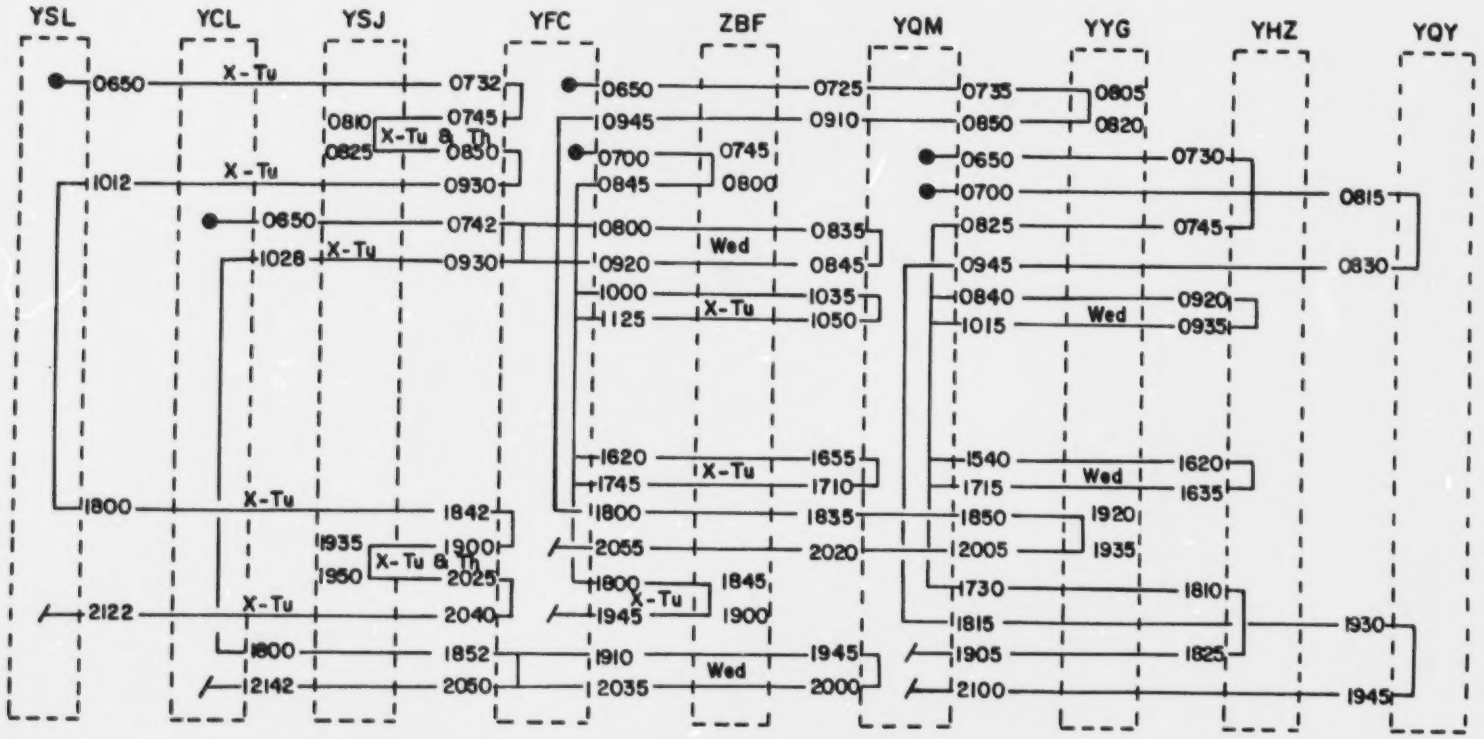


FIGURE 7.12: AIR SERVICE NETWORK No. 3



CITY CODES

YQM	MONCTON
YFC	FREDERICTON
YSJ	SAINT JOHN
YSL	ST. LEONARD
YYG	CHARLOTTETOWN
YHZ	HALIFAX
YQY	SYDNEY
YCL	CHARLO
ZBF	BATHURST

FIGURE 7.13: NETWORK No. 3 FLIGHT SCHEDULE

PIPER AZTEC (PA 23)

(MONDAY THROUGH FRIDAY EXCEPT AS NOTED)

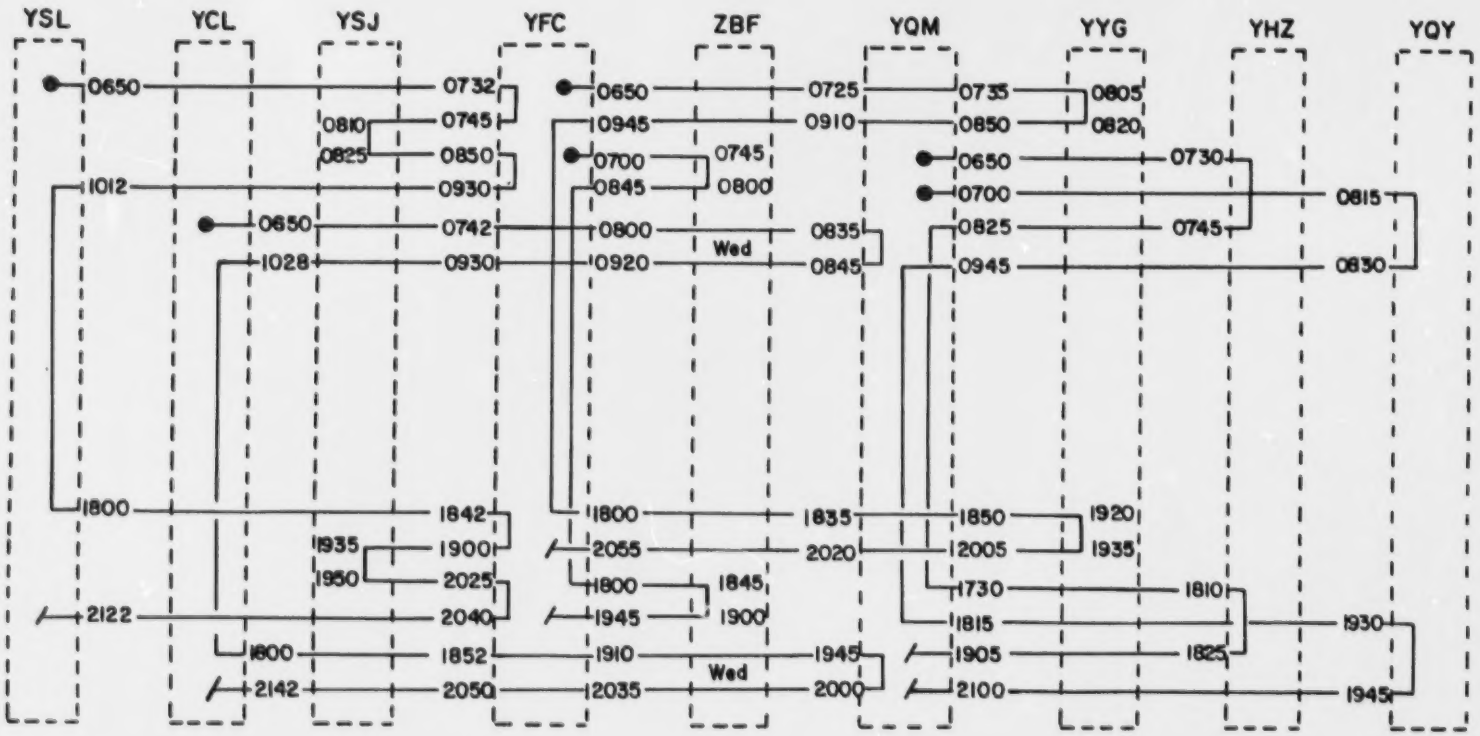
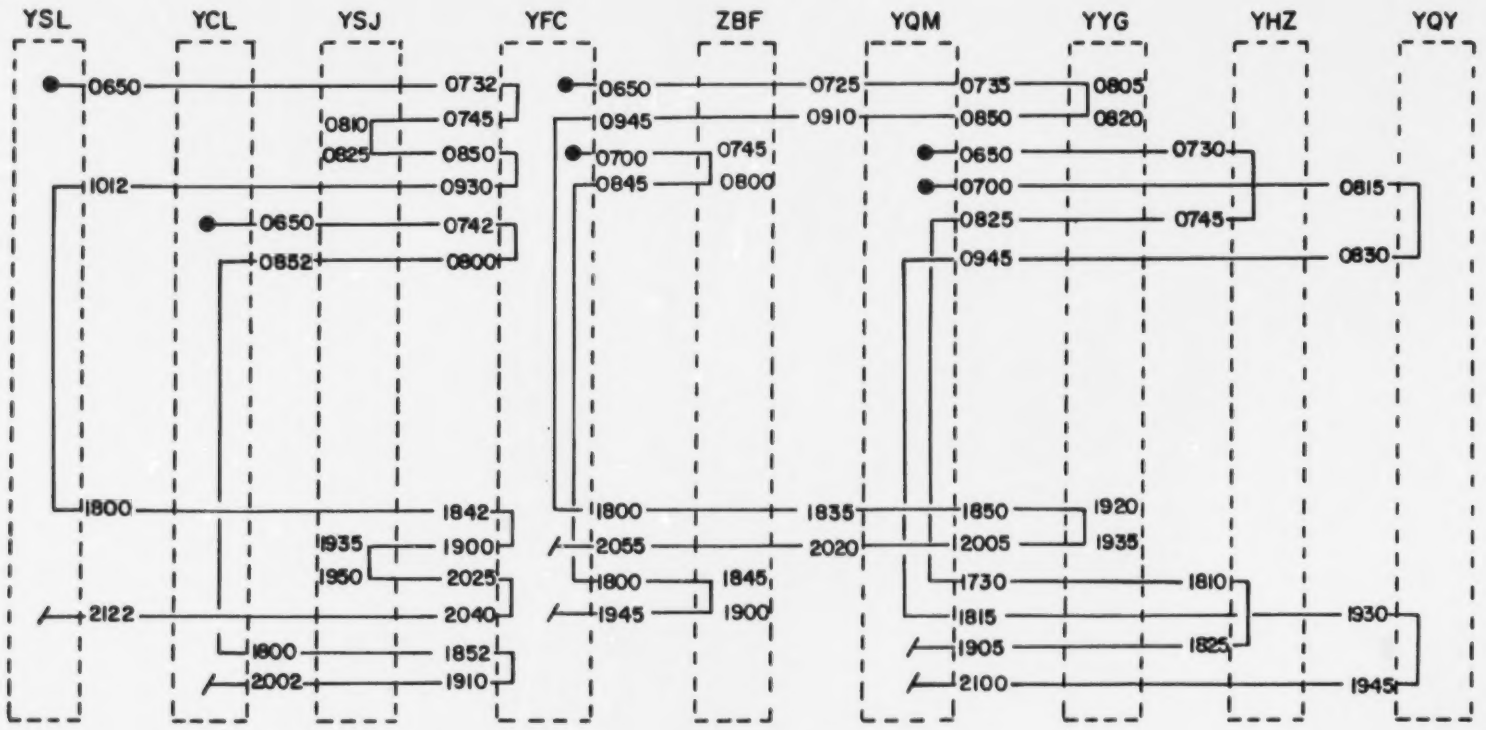


FIGURE 7.14: NETWORK No. 3 FLIGHT SCHEDULE
PIPER PA31, CESSNA 402 & BEECH 80

(MONDAY WEDNESDAY & FRIDAY EXCEPT AS NOTED)

CITY CODES

YQM	MONCTON
YFC	FREDERICTON
YSJ	SAINT JOHN
YSL	ST. LEONARD
YYG	CHARLOTTETOWN
YHZ	HALIFAX
YQY	SYDNEY
YCL	CHARLO
ZBF	BATHURST



CITY CODES

YQM	MONCTON
YFC	FREDERICTON
YSJ	SAINT JOHN
YSL	ST. LEONARD
YYG	CHARLOTTETOWN
YHZ	HALIFAX
YQY	SYDNEY
YCL	CHARLO
ZBF	BATHURST

FIGURE 7.15: NETWORK No. 3 FLIGHT SCHEDULE

DeHAVILLAND TWIN OTTER & DASH 8

(MONDAY, WEDNESDAY & FRIDAY)

Table 7.14

FINANCIAL SUMMARY - NETWORK #2

Piper Aztec (PA23)

Direct Costs for Moncton Air Services for 1986

($ 000's 1986)

Aircraft Type	Labour	Material	Other	Lf/Gta/Nav	Fuel	Dep'n	Leases	Total
PA23	430	269.1	28	57.7	323	0	135.8	1 243.6
Total	430	269.1	28	57.7	323	0	135.8	1 243.6

Passenger Food	=	.0
Passenger Commissions	=	216.8
Total Variable	=	1 460.3

Allocated Overhead Expenses for Moncton Air Service for 1986

Line Overhead (Fixed)	=	504.4
Line Overhead (Hourly)	=	.0
Grnd Hdl and Res.	=	8.4
Interest	=	.0
Hull and Passenger Insurance	=	54.1
Sales Overhead	=	.0
Advertising	=	11.4
Pl. & Administration (Fixed)	=	150.0
Total Allocated Expenses	=	728.4
Total Fully Allocated Expenses	=	2 188.7
Passenger Revenue	=	2 282.0
Cargo Revenue	=	22.8
Contribution	=	116.0
Op. Margin (Approx. %)	=	5.0

Table 7.15

FINANCIAL SUMMARY - NETWORK #2

CESSNA 402

Direct Costs for Moncton Air Services for 1986

($ 000's 1986)

Aircraft Type	Labour	Material	Other	Lf/Gta/Nav	Fuel	Dep'n	Leases	Total
C402	500	139.8	23.7	35.7	270.3	0	216.6	1 186.0
Total	500	139.8	23.7	35.7	270.3	0	216.6	1 186.0

Passenger Food	=	.0
Passenger Commissions	=	216.8
Total Variable	=	1 402.8

Allocated Overhead Expenses for Moncton Air Service for 1986

Line Overhead (Fixed)	=	504.4
Line Overhead (Hourly)	=	.0
Grnd Hdl and Res.	=	8.4
Interest	=	.0
Hull and Passenger Insurance	=	70.8
Sales Overhead	=	.0
Advertising	=	11.4
Pl. & Administration (Fixed)	=	150.0
Total Allocated Expenses	=	745.1
Total Fully Allocated Expenses	=	2 147.9
Passenger Revenue	=	2 282.0
Cargo Revenue	=	22.8
Contribution	=	156.9
Op. Margin (Approx. %)	=	6.8

Table 7.16

ANNUAL PASSENGER ORIGIN/
DESTINATION DATA

NETWORK #3

Destination / Origin	YFC	YSJ	YQM	YYG	YQY	YHZ	YSL	YCL	ZBF
YFC		350	700	150	75*	75*	450	600	450
YSJ	350		75*	10*	10*	10*	150	-	-
YQM	700	75*		450	600	900	225	300	225*
YYG	150	10*	450	-		-	-	-	-
YQY	75*	10*	600	-		-	-	-	-
YHZ	75*	10*	900	-	-		75*	75*	75*
YSL	450	150	225	-	-	75*		-	-
YCL	600	-	300	-	-	75*	-		-
ZBF	450	-	225*	-	-	75*	-	-	

- No Data Provided
0 No Service in this Network
* Reduced due to Schedule

City Codes

YQM	Moncton	YHZ	Halifax
YFC	Fredericton	YQY	Sydney
YSJ	Saint John	YCL	Charlo
YSL	St. Leonard	ZBF	Bathurst
YYG	Charlottetown		

Table 7.17

ROUND TRIP FREQUENCIES PER WEEK

NETWORK #3

Route Leg	Piper PA23	Piper PA31	Cessna 402	Beech B80	DeHav DHC6	DeHav DHC8
YQM - YHZ	12*	6	6	6	6	6
YQM - YQY	6	6	6	6	6	6
YQM - YYG	6	6	6	6	6	6
YQM - YFC	18	8	8	8	6	6
YFC - YSJ	6	6	6	6	6	6
YFC - YSL	8	6	6	6	6	6
YFC - YCL	8	6	6	6	6	6
YFC - ZBF	8	6	6	6	6	6

* 12 Means 2 Round Trips Daily, Monday through Friday
Plus Added Round Trips on Any Weekday

City Codes

YQM	Moncton	YHZ	Halifax
YFC	Fredericton	YQY	Sydney
YSJ	Saint John	YCL	Charlo
YSL	St. Leonard	ZBF	Bathurst
YYG	Charlottetown		

The operational and financial characteristics are shown in Table 7.18. This table provides a good indication of the impact of the passenger load factor on profitability. The Twin Otter and the Dash 8, because of the number of seats, would operate at a 14.8 and 7.8 percent load factors, respectively, thus generating large losses. Due to the requirement of providing early morning service, the number of airplanes required to operate the route structure is the same as the smaller aircraft (i.e. independent of the size). The Twin Otter and the Dash 8 are much too large to be economically viable on Network #3.

The fare structure used in the Network #3 evaluation was the same as that developed to make one of the airplane types profitable in Network #2.

The financial details for the Piper PA23 and Cessna 402 are shown in Tables 7.19 and 7.20.

7.5.4 Network #4

Air service Network #4 is similar to Network #3. The only difference is in the manner which Bathurst is served. The comments below are basically the same as documented for Network #3.

The route structure for Network #4 is shown in Figure 7.16 and the flight schedules for the various airplane types are shown in Figures 7.17, 7.18 and 7.19. The origin/destination passenger flows shown in Table 7.21 are reduced from that shown in Table 6.3. All nine communities are served, however, as with the previous two networks not all passengers can obtain suitable connections at Moncton and Fredericton. About 74 percent of the forecast origin/destination passengers can be carried on Network #4, slightly less than Network #2. The aircraft overnight at St. Leonard, Charlo, Fredericton and Moncton. A total of six airplanes are required to operate this network, regardless of aircraft size.

The round trip frequencies for the various airplane types are shown in Table 7.22. The Piper PA23 (Aztec) which has only four seats, provides at

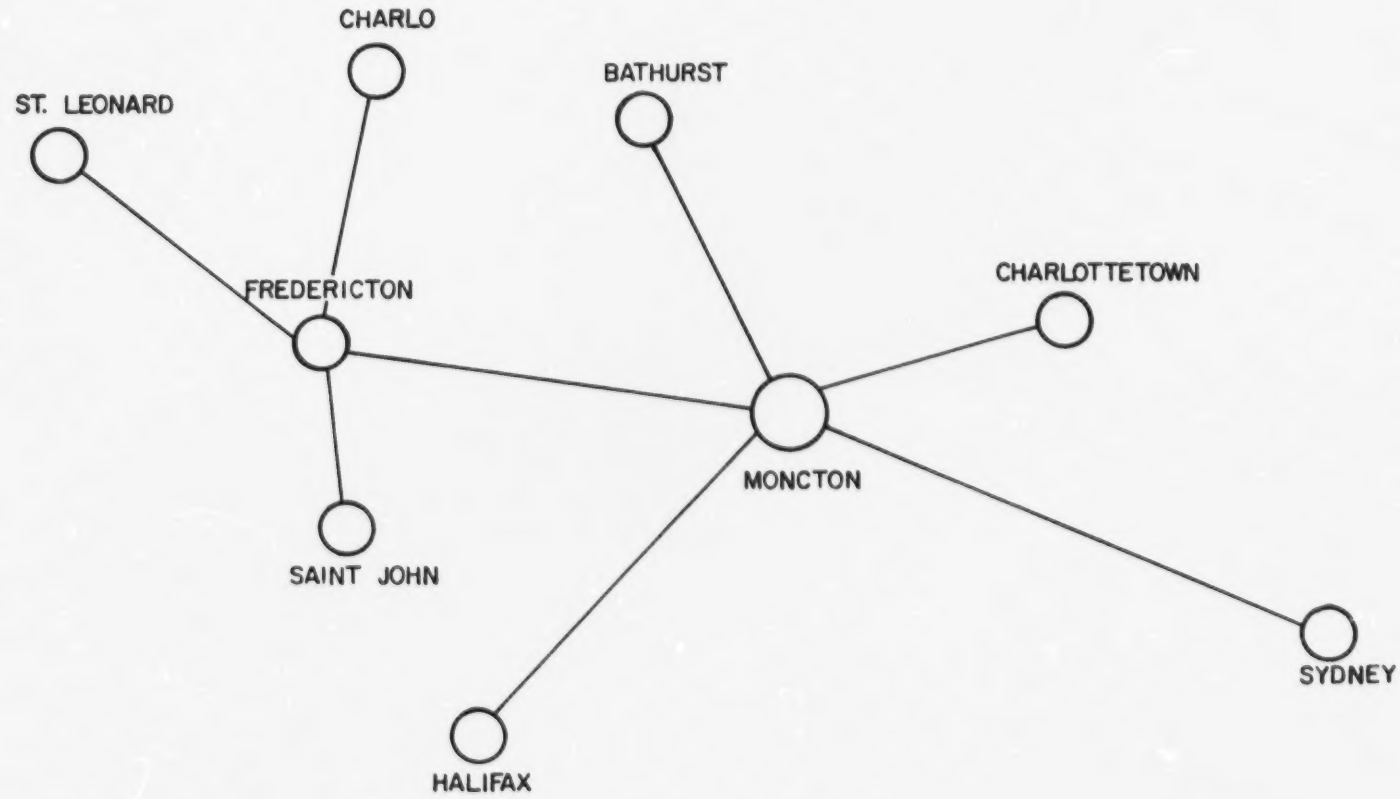


FIGURE 7.16: AIR SERVICE NETWORK No. 4

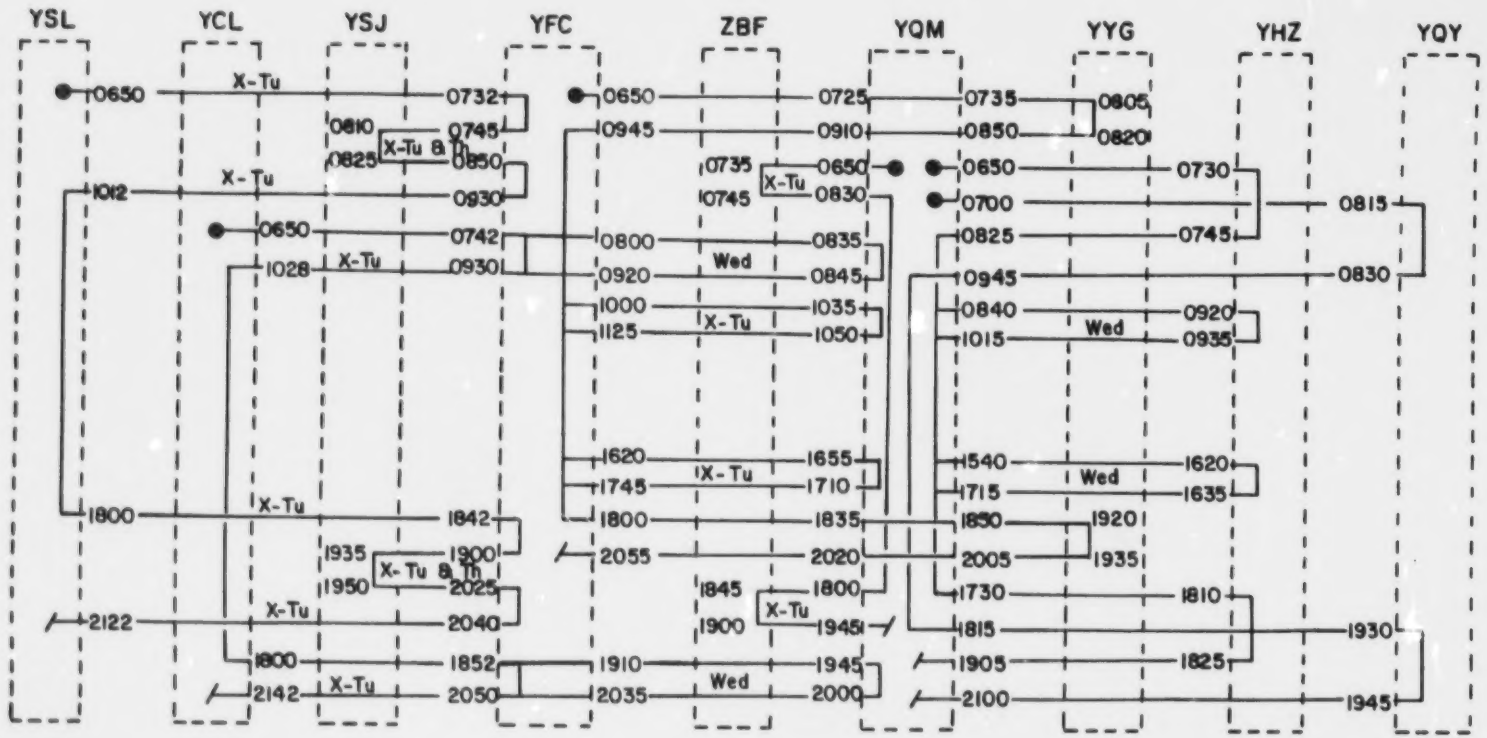


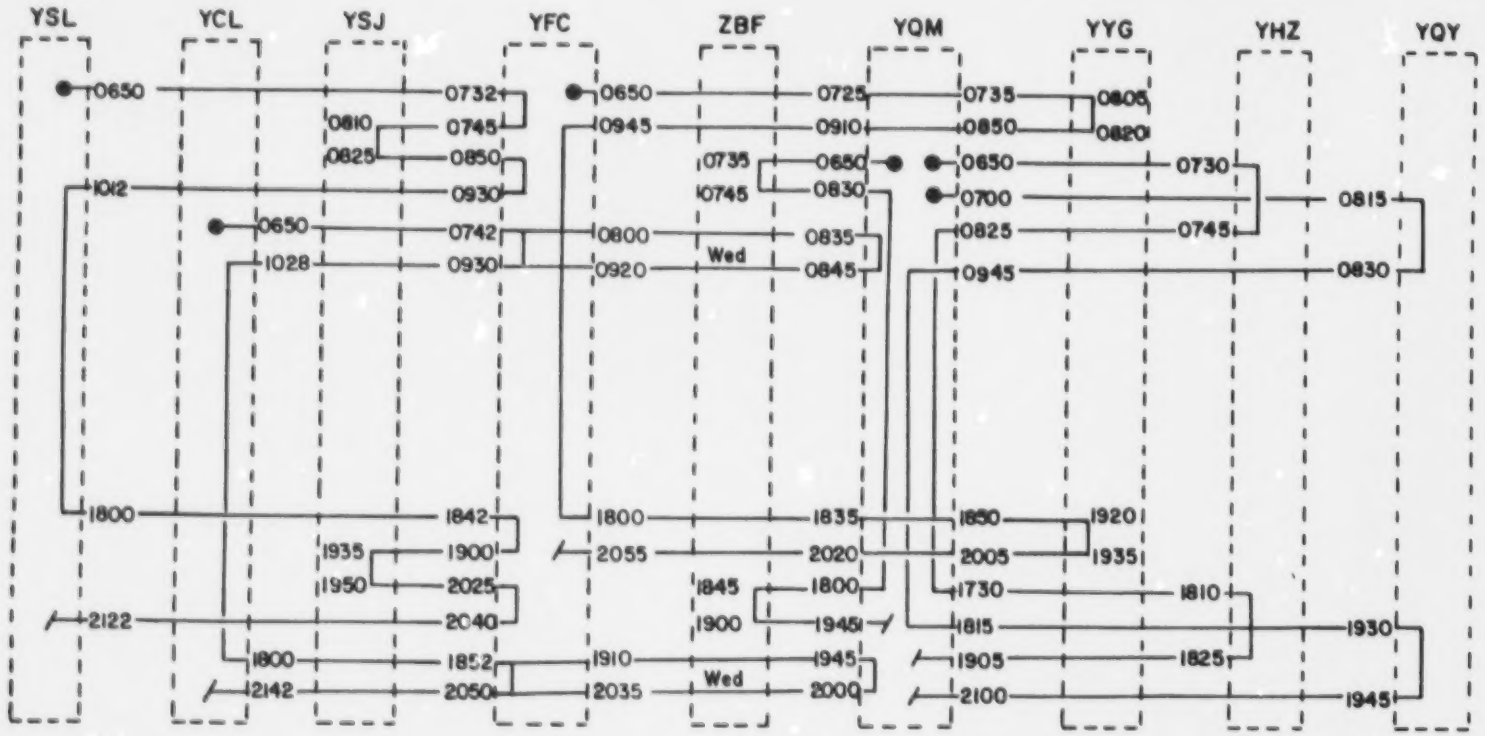
FIGURE 7.17: NETWORK No. 4 FLIGHT SCHEDULE

PIPER AZTEC (PA 23)

(MONDAY THROUGH FRIDAY EXCEPT AS NOTED)

CITY CODES

YQM	MONCTON
YFC	FREDERICTON
YSJ	SAINT JOHN
YSL	ST. LEONARD
YYG	CHARLOTTETOWN
YHZ	HALIFAX
YQY	SYDNEY
YCL	CHARLO
ZBF	BATHURST



CITY CODES

YQM	MONCTON
YFC	FREDERICTON
YSJ	SAINT JOHN
YSL	ST. LEONARD
YYG	CHARLOTTETOWN
YHZ	HALIFAX
YQY	SYDNEY
YCL	CHARLO
ZBF	BATHURST

FIGURE 7.18: NETWORK No. 4 FLIGHT SCHEDULE

PIPER PA31, CESSNA 402 & BEECH 80

(MONDAY, WEDNESDAY & FRIDAY EXCEPT AS NOTED)

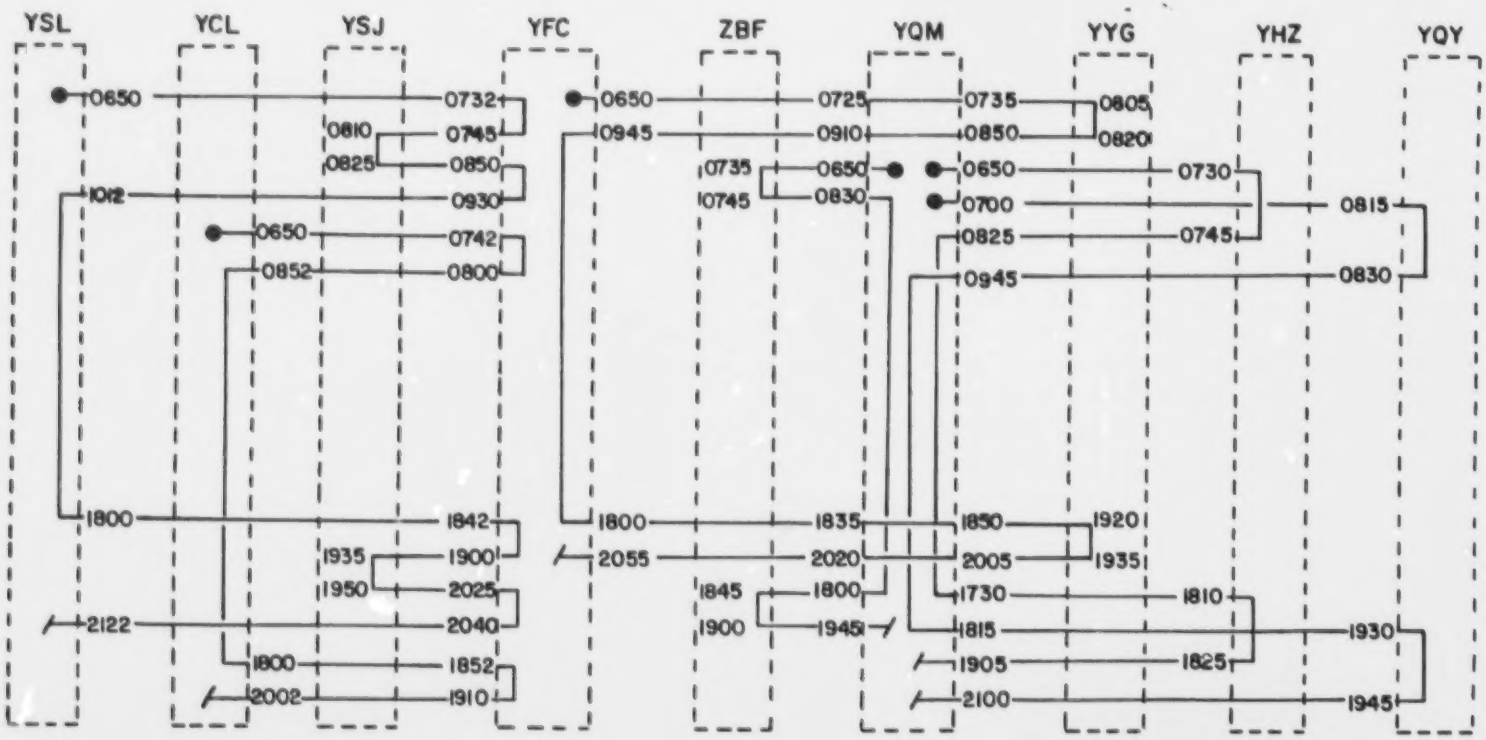


FIGURE 7.19: NETWORK No. 4 FLIGHT SCHEDULE

DeHAVILLAND TWIN OTTER & DASH 8

(MONDAY, WEDNESDAY & FRIDAY)

CITY CODES

YQM	MONCTON
YFC	FREDERICTON
YSJ	SAINT JOHN
YSL	ST. LEONARD
YYG	CHARLOTTETOWN
YHZ	HALIFAX
YQY	SYDNEY
YCL	CHARLO
ZBF	BATHURST

Table 7.18

OPERATING AND FINANCIAL STATISTICS - ANNUAL

NETWORK #3

Criteria	Piper PA23	Piper PA31	Cessna 402	Beech B80	DeHav DHC6	DeHav DHC8
Flight Departures	7 488	5 200	5 200	5 200	4 992	4 992
Block Hours	5 200	3 182	3 546	3 500	3 572	3 255
Fleet Size	6	6	6	6	6	6
Passengers	11 530	11 530	11 530	11 530	11 530	11 530
Passenger Enplanements	14 385	14 385	14 385	14 385	14 385	14 385
Load Factor (%)	48.6	34.0	34.0	30.2	14.8	7.8
Lease Expense ($000)	136	262	217	237	1 376	7 548
Revenue ($000)	2 168	2 168	2 168	2 168	2 168	2 168
Expenses ($000)	2 044	2 273	2 088	2 324	3 834	12 520
Income Before Tax ($000)	124	-105	80	-156	-1 666	-10 352

Table 7.19

FINANCIAL SUMMARY - NETWORK #3

Piper Aztec (PA23)

Direct Costs for Moncton Air Services for 1986

($ 000's 1986)

Aircraft Type	Labour	Material	Other	Lf/Gta/Nav	Fuel	Dep'n	Leases	Total
PA23	430	218.4	25	49.4	260.8	0	135.8	1 119.4
Total	430	218.4	25	49.4	260.8	0	135.8	1 119.4

Passenger Food	=	.0
Passenger Commissions	=	204.0
Total Variable	=	1 323.3

Allocated Overhead Expenses for Moncton Air Service for 1986

Line Overhead (Fixed)	=	504.4
Line Overhead (Hourly)	=	.0
Grnd Hdl and Res.	=	7.2
Interest	=	.0
Hull and Passenger Insurance	=	49.0
Sales Overhead	=	.0
Advertising	=	10.7
Pl. & Administration (Fixed)	=	150.0
Total Allocated Expenses	=	721.3
Total Fully Allocated Expenses	=	2 044.7
Passenger Revenue	=	2 147.1
Cargo Revenue	=	21.5
Contribution	=	123.9
Op. Margin (Approx. %)	=	5.7

Table 7.20

FINANCIAL SUMMARY - NETWORK #3

CESSNA 402

Direct Costs for Moncton Air Services for 1986

($ 000's 1986)

Aircraft Type	Labour	Material	Other	Lf/Gta/Nav	Fuel	Dep'n	Leases	Total
C402	500	127.7	22.7	34.3	245.4	0	216.6	1 146.6
Total	500	127.7	22.7	34.3	245.4	0	216.6	1 146.6

Passenger Food	=	.0
Passenger Commissions	=	204.0
Total Variable	=	1 350.6

Allocated Overhead Expenses for Moncton Air Service for 1986

Line Overhead (Fixed)	=	504.4
Line Overhead (Hourly)	=	.0
Grnd Hdl and Res.	=	7.2
Interest	=	.0
Hull and Passenger Insurance	=	65.7
Sales Overhead	=	.0
Advertising	=	10.7
Pl. & Administration (Fixed)	=	150.0
Total Allocated Expenses	=	738.0
Total Fully Allocated Expenses	=	2 088.6
Passenger Revenue	=	2 147.1
Cargo Revenue	=	21.5
Contribution	=	79.9
Op. Margin (Approx. %)	=	3.7

Table 7.21

ANNUAL PASSENGER ORIGIN/
DESTINATION DATA

NETWORK #4

Destination / Origin	YFC	YSJ	YQM	YYG	YQY	YHZ	YSL	YCL	ZBF
YFC		350	700	150	75*	75*	450	600	225*
YSJ	350		75*	10*	10*	10*	150	-	-
YQM	700	75*		450	600	900	110*	150*	450
YYG	150	10*	450		-	-	-	-	-
YQY	75*	10*	600	-		-	-	-	-
YHZ	75*	10*	900	-	-		75*	75*	75*
YSL	450	150	110*	-	-	75*		-	-
YCL	600	-	150*	-	-	75*	-		-
ZBF	225*	-	450	-	-	75*	-	-	

- No Data Provided
0 No Service in this Network
* Reduced due to Schedule

City Codes

YQM	Moncton	YHZ	Halifax
YFC	Fredericton	YQY	Sydney
YSJ	Saint John	YCL	Charlo
YSL	St. Leonard	ZBF	Bathurst
YYG	Charlottetown		

Table 7.22

ROUND TRIP FREQUENCIES PER WEEK

NETWORK #4

Route Leg	Piper PA23	Piper PA31	Cessna 402	Beech B80	DeHav DHC6	DeHav DHC8
YQM - YHZ	12*	6	6	6	6	6
YQM - YQY	6	6	6	6	6	6
YQM - YYG	6	6	6	6	6	6
YQM - YFC	18	8	8	8	6	6
YFC - YSJ	6	6	6	6	6	6
YFC - YSL	8	6	6	6	6	6
YFC - YCL	8	6	6	6	6	6
YQM - ZBF	8	6	6	6	6	6

* 12 Means 2 Round Trips Daily, Monday through Friday
Plus Added Round Trips on Any Weekday

City Codes

YQM	Moncton	YHZ	Halifax
YFC	Fredericton	YQY	Sydney
YSJ	Saint John	YCL	Charlo
YSL	St. Leonard	ZBF	Bathurst
YYG	Charlottetown		

least two round trips per day, five days per week on two of the route legs, two round trips per day for four days on three of the links and two round trips per day, three days per week on the remaining two links. Service in general is not as good as in Network #2, although the ratio of passengers carried to passenger enplanements is 80 percent.

The operational and financial characteristics are shown in Table 7.23. The Twin Otter and the Dash 8, due to their large size, would operate at a 14.8 and 7.8 percent load factor, respectively, producing large losses. With the requirement to provide early morning service, the number of airplanes required is the same as the smaller aircraft (i.e. independent of the size). The Twin Otter and the Dash 8 are too large to be realistically considered for Network #4.

The fare structure used for Network #4 was the same as that developed to make one of the airplane types profitable in Network #2.

The financial details for the Piper PA23 and Cessna 402 are shown in Tables 7.24 and 7.25.

7.6 Conclusion

Based on the above analysis, which indicates that a fare structure approximately equal to three times the one proposed by Air Nova would be required for a local air service airline to operate in a breakeven position, it can be concluded that a local air service is not feasible at this time. If a normal air fare structure were used in the analysis, operation of an airline would require an annual operating subsidy between $913 000 and $1 215 000.

Table 7.23

OPERATING AND FINANCIAL STATISTICS - ANNUAL

NETWORK #4

Criteria	Piper PA23	Piper PA31	Cessna 402	Beech B80	DeHav DHC6	DeHav DHC8
Flight Departures	7 488	5 200	5 200	5 200	4 992	4 992
Block Hours	5 132	3 140	3 500	3 453	3 526	3 219
Fleet Size	6	6	6	6	6	6
Passengers	11 530	11 530	11 530	11 530	11 530	11 530
Passenger Enplanements	14 371	14 371	14 371	14 371	14 371	14 371
Load Factor (%)	48.7	34.0	34.0	30.3	14.8	7.8
Lease Expense ($000)	136	262	217	237	1 376	7 548
Revenue ($000)	2 155	2 155	2 155	2 155	2 155	2 155
Expenses ($000)	2 036	2 265	2 082	2 314	3 822	12 505
Income Before Tax ($000)	119	-110	73	-159	-1 667	-10 350

Table 7.24

FINANCIAL SUMMARY - NETWORK #4

Piper Aztec (PA23)

Direct Costs for Moncton Air Services for 1986

($ 000's 1986)

Aircraft Type	Labour	Material	Other	Lf/Gta/Nav	Fuel	Dep'n	Leases	Total
C402	430	215.7	24.8	49.4	257.2	0	135.8	1 112.9
Total	430	215.7	24.8	49.4	257.2	0	135.8	1 112.9

Passenger Food	=	.0
Passenger Commissions	=	202.7
Total Variable	=	1 315.6

Allocated Overhead Expenses for Moncton Air Service for 1986

Line Overhead (Fixed)	=	504.4
Line Overhead (Hourly)	=	.0
Grnd Hdl and Res.	=	7.2
Interest	=	.0
Hull and Passenger Insurance	=	48.6
Sales Overhead	=	.0
Advertising	=	10.7
Pl. & Administration (Fixed)	=	150.0
Total Allocated Expenses	=	720.9
Total Fully Allocated Expenses	=	2 036.5
Passenger Revenue	=	2 133.6
Cargo Revenue	=	21.3
Contribution	=	118.5
Op. Margin (Approx. %)	=	5.5

Table 7.25

FINANCIAL SUMMARY - NETWORK #4

CESSNA 402

Direct Costs for Moncton Air Services for 1986

($ 000's 1986)

Aircraft Type	Labour	Material	Other	Lf/Gta/Nav	Fuel	Dep'n	Leases	Total
C402	500	126	22.5	34.3	241.8	0	216.6	1 141.2
Total	500	126	22.5	34.3	241.8	0	216.6	1 141.2

Passenger Food	=	.0
Passenger Commissions	=	202.7
Total Variable	=	1 343.9

Allocated Overhead Expenses for Moncton Air Service for 1986

Line Overhead (Fixed)	=	504.4
Line Overhead (Hourly)	=	.0
Grnd Hdl and Res.	=	7.2
Interest	=	.0
Hull and Passenger Insurance	=	65.3
Sales Overhead	=	.0
Advertising	=	10.7
Pl. & Administration (Fixed)	=	150.0
Total Allocated Expenses	=	737.6
Total Fully Allocated Expenses	=	2 081.5
Passenger Revenue	=	2 133.6
Cargo Revenue	=	21.3
Contribution	=	73.4
Op. Margin (Approx. %)	=	3.4

8.0 DEVELOPMENT OF AIR SERVICE IMPROVEMENT STRATEGIES FOR MONCTON

8.1 Introduction

The previous chapter has identified the financial and operational characteristics of various local air service network options which could be implemented to improve local air service at Moncton and other regional communities. The analysis indicates that a fare structure approximately equal to three times the competitive level would be required for a local service airline to operate at a breakeven position. Expressed in terms of an operating subsidy (assuming a normal competitive fare level), the annual amount would range between $0.91 million and $1.22 million, depending on the air network implemented. The probable poor financial viability of a local air service network can be attributed to lack of demand and the current and future dynamic climate of the airline industry as a result of recent changes in the Canadian air policy. Since it is unlikely that local air carriers can provide improvements to the air services at Moncton, it is critical to encourage appropriate levels of service by the national and regional carriers.

This chapter has been prepared to consolidate the primary results which were derived from the study and provides a general development strategy for provision of air service at Moncton. Improvements to the existing air services are identified and priorized.

8.2 Strategies for Improvement

The primary inputs utilized in evaluating air service requirements associated with the Moncton area included existing air service levels, existing and future market potential and air service criteria established from discussions with various business people in the Moncton area. These inputs have been used as the basis for developing the air service improvement strategies.

The most important characteristic of any air service is reliability. In the recent past, Moncton business people have been faced with an

unacceptable level of delays and flight cancellations associated with regional flights, especially to and from Halifax and Newfoundland. This has resulted in significant travel time delays and an increase in the number of automobile trips being made to Halifax from Moncton to either conduct business in Halifax or to connect with flights to/from points eastward.

This increase in overall travel time has also resulted in greater trip costs. Improvements in the reliability of regional air service should increase demand on some regional air links.

Associated closely with reliability is the need for same day return service. This is a major area where improvements are required with respect to existing air service. Prior to identifying where the demand for same day return exists, and where existing levels of service are not meeting this demand, it is important to establish guidelines for same day return flight times. These time criteria are applicable to either regional or extraregional travel and were derived from discussions with various representatives of the business community in the Moncton area who utilized air service for business purposes. Future planning and scheduling by airlines should use these criteria as guidelines to the maximum extent possible.

The earliest acceptable departure time from the origin is considered to be 0700 hours, while the preferred departure time is 0800 hours. It is essential that a minimum of six hours at the destination be available to conduct a day's business prior to returning that same day. A preferred return trip arrival time at Moncton from travel within the region is considered to be between 1700 and 1900 hours. The preferred return time from external cities such as Ottawa, Toronto and Montreal is 2000 hours. The latest arrival time from any same day return trip is considered to be 2300 hours. A maximum one hour connect time with other flights at an intermediate airport is believed reasonable.

The comments documented below relating to same day return service for regional travel are based on Summer 1985 schedules which were used as the basis for analysis in this study. Figures 3.18 and 3.20 provide a graphic illustration of existing opportunities for same day return service between Moncton and other regional centres. These figures should be reviewed in conjunction with the following discussion.

Reviewing the existing air service schedules for regional travel, there are a number of existing deficiencies when flight times are compared to the same day return time criteria identified above. From Moncton to Halifax return, there exists two excellent opportunities for same day return. However, in the reverse direction (Halifax to Moncton same day return) there are improvements which can be made to the existing schedule. Presently, there is a flight leaving Halifax to Moncton at 0600 hours. Changing this departure time to 0700 hours would provide excellent same day return service from Halifax to Moncton. It is realized that this may cause problems with overall aircraft utilization by the airlines. However, this potential should be explored with the airlines.

The greatest deficiencies in same day return service for regional travel exist between Moncton and the cities of Charlottetown, Sydney and St. John's. Business people have indicated that same day return to these communities is a high priority for improvements to existing air service. Consequently, these points represent significant opportunities for expansion of traffic volumes for the airlines.

Reviewing Moncton to Charlottetown first, a same day return trip currently requires a 0700 hour departure and an arrival time back home of 2159. This represents a total trip time (not including ground access time) of 15 hours, a trip time not compatible to the trip distance. During this time there is only 6 hours available to conduct business at Charlottetown. Of equal, or greater aggrevation, 6 1/2 hours are spent at the Halifax terminal waiting for flight connections. This can not be considered as adequate same day return service, and improvements should be made to reduce overall travel time and reduce connect time at the Halifax terminal.

From Moncton to Sydney, a similar situation exists. There is a total travel time from departure to arrival back home of 15 hours. During this trip time, 6 hours and 34 minutes are available to conduct business in Sydney, while 5 hours and 50 minutes are required in the Halifax terminal for connection purposes. This poor same day return service has suppressed air travel demand between these two communities. The focus group discussions held with various business people in Moncton indicated that Sydney is a community with major potential business travel demand and that a large number of trips are currently being made by automobile because of the poor existing flight schedules. An automobile trip requires 5 hours in each direction. Improvements to the flight schedules enabling convenient same day return would probably result in a significant increase in air passenger travel between these points. This is applicable to other regional communities as well, although perhaps to a lesser extent.

From Moncton to St. John's, total same day return travel time is 15 hours (the same as to Sydney and Charlottetown). This permits almost 8 hours at St. John's to conduct business. However, there is a 2 hour and 25 minute connect time at Halifax on the return to Moncton. A reduction to a 1 hour connect time would provide adequate same day return service from Moncton to St. John's and would reduce the overall trip time.

The above discussions relate to same day return deficiencies from Moncton to Sydney, Charlottetown, St. John's and Halifax. There is also a requirement for same day return opportunities for travel from the above communities to Moncton. Presently, there are a number of same day return opportunities from Halifax to Moncton. However, to fall within the same day return time criteria established by business people, there is the need for a change in the early morning flight from Halifax to Moncton. Presently this flight departs Halifax at 0600 hours, 2 hours earlier than the desirable morning departure time and 1 hour prior to the earliest acceptable departure time. If this flight (PV 221) were changed to 0700 hours, a number of good same day return opportunities would exist, each providing sufficient time to conduct business in Moncton.

From Sydney to Moncton, the present flight schedules do not provide a realistic same day return opportunity. A total of 14 hours and 31 minutes is required from a morning Sydney departure to a late evening return. This opportunity provides 6 hours and 16 minutes on the ground at Moncton, but 5 hours and 40 minutes are required at the Halifax terminal for connection purposes. Both the morning departure time and the evening arrival time back home are well within acceptable same day return time criteria. However, the long connect time at Halifax does not meet acceptable criteria and it is in this area where improvements are required. A one hour connect time would reduce the overall trip length as well.

The same day return opportunity from Charlottetown to Moncton is very similar to that of Sydney. Both morning departure and evening arrival times are within acceptable limits, along with time available on the ground at the destination. However, the connect time required at Halifax is not acceptable and is the area where improvement is necessary.

The comments in the above paragraph are also applicable to same day return opportunities from St. John's to Moncton. In addition, the arrival time back home is after the 2300 hour latest arrival time (2313). An earlier evening arrival time coupled with reduced connect times would improve the same day return opportunity to within an acceptable limit.

The above discussion has centred on same day return improvements for regional travel to and from Moncton. In most cases, a reduction in the time spent in the Halifax terminal for flight connections would greatly enhance same day return requirements. Business people have clearly indicated that convenient same day return service within the region is essential and the provision of this service, along with greater reliability, would increase existing demand. The convenience of such opportunities would decrease overall travel time and reduce travel costs.

Equally important to Moncton business people are the extraregional same day return opportunities associated with Montreal, Ottawa and Toronto.

Although existing air service to these areas provides a much higher level of service than that which exists for regional air travel, there are some improvements which can be made to enhance same day return. Figures 3.17 and 3.19 display the existing opportunities for same day return between Moncton and the external centres stated above. The discussion below will be based on these two figures.

Presently, same day return service from Moncton to Montreal is good. There is a direct flight departing Moncton at 0720 hours. This provides a total of 9 hours and 39 minutes on the ground in Montreal, with arrival back in Moncton at 1933 hours. Adequate same day return to Ottawa is also available.

There is the requirement to improve same day return service from Moncton to Toronto. Presently, the most convenient opportunity requires a 0720 hour departure time from Moncton, with a return arrival time at 2315. This represents a total return travel time of almost 16 hours (not including ground access time to/from the airport), with 9 hours and 42 minutes on the ground in Toronto. It would be desirable to reduce this time in Toronto by approximately two hours. This would then require a departure from Toronto at 1750 rather than 1950 (AC 658) and an arrival back in Moncton via Saint John at 2115. Such a schedule change would provide an adequate same day return service for air travel from Moncton to the three major external centres in eastern Canada.

The same day return service from Toronto to Moncton is quite adequate. Except for a 0650 morning departure time (AC 650) out of Toronto, all other flight times associated with this same day return opportunity meet the time criteria established by the Moncton business people. If the morning departure time could be changed to depart between 0700 and 0800 hours, this same day return opportunity would be excellent.

The above discussion has centred around improving existing flights in a manner which would enable same day return for trips associated with Moncton. This is a major service requirement of business travel,

especially in regards to regional travel. Although same day return is desirable to other external communities as well, many business people have suggested the minimum level of service would be one which would permit travel to the destination in the evening with return the following evening. Such an arrangement would permit a full days work at the destination with only one night away from home. This minimum requirement is important and should be considered during any major air service schedule changes.

Discussions with business people indicate that they are fully aware that regional jet service is expensive and that this type of service can most economically be provided with turbo prop aircraft. However, it is important that this type of aircraft have a cabin design which provides sufficient leg and seating room and reduces the in-cabin noise from the engines. In-flight service requirements for regional travel are not considered a necessity because of short flight times. The provision of newspaper/magazines and coffee would satisfy most in-flight service requirements.

The Hawker-Siddeley 748 aircraft which were used by Air Maritime were not considered by the business community to be a reliable or comfortable aircraft. The noise associated with the flight and the numerous flight cancellations by Air Maritime in the past did not enhance this aircraft's, or the carrier's image in the eyes of the business people. The critical factor for air service in general, and regional service in particular, is the consistent provision of reliable, on-time service. The poor performance of the previous regional air service has reduced regional air traffic levels associated with Moncton below their potential.

In addition to the above improvements, there are a number of other areas where consideration should be given to improving the quality of air service to and from Moncton.

Business travellers desire an increase in the number of available seats during peak periods, specifically during the peak travel season as well as

Mondays and Fridays during the week. Presently, there is some difficulty in obtaining convenient reservations because of consistently high load factors on key flights on peak days of the week. The spontaneity of business travel requirements often do not permit reserving a seat on a particular flight well in advance. Therefore, there is a level of supressed demand in these peak periods.

The other area in which the level of air service is considered inadequate is access to the New England area, in particular, Boston. A more convenient connection between Boston and Moncton is required to meet this north - south demand.

Although the analysis conducted for a local air service network indicated that such a network would not be financially feasible, regional airlines should give some consideration to extension of their route structure. In addition to the previously noted demand between Moncton and the primary centres of Halifax, Charlottetown, Sydney and St. John's, there is some demand for air travel between Charlo/Bathurst/Moncton, as well as St. Leonard/Fredericton/Moncton.

In summary, this chapter has identified areas where existing air service can be improved to accommodate the air travel demands of the Moncton area. Adjustments to meet these user service requirements would enhance the opportunities available to the airlines. The two most important elements of any air service is reliability and the opportunity for same day return to regional centres as well as key external communities (Montreal, Ottawa and Toronto).